MINUTES OF MEETINGS

OF THE

ISTHMIAN CANAL COMMISSION

AND OF THE

ENGINEERING COMMITTEE

OCTOBER TO DECEMBER
1906

Gift of the Panama Canal Museum

OFFICE OF ADMINISTRATION
ISTHMIAN CANAL AFFAIRS
WASHINGTON

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MINUTES OF MEETINGS OF THE ISTHMIAN CANAL COMMISSION.

ONE HUNDRED AND FIFTEENTH MEETING.

ANCON, CANAL ZONE,
November 15, 1906.

The quarterly meeting of the Isthmian Canal Commission was held at the office of the Governor of the Canal Zone pursuant to the following Executive order:

EXECUTIVE ORDER.

The quarterly session of the Isthmian Canal Commission which, under the Executive order of April 1, 1905, would ordinarily be held on the 1st day of October next may be held at the office of the Governor of the Canal Zone, on the Isthmus of Panama, on the 15th day of November, 1906, instead of on the date above mentioned.

THEODORE ROOSEVELT. *President.*

THE WHITE HOUSE, *September 20, 1906.*

Present: Commissioners Shonts (Chairman), Stevens, Endicott, Hains, and Harrod, and Secretary Bishop.

By invitation, General Counsel Rogers and Principal Assistant Engineer Ripley sat with the Commission.

1. The minutes of the twenty-third meeting of the Executive Committee, dated July 17, were read and, after discussion, the following was adopted:

Resolved, That the minutes of the twenty-third meeting of the Executive Committee, held on July 17, as read at this meeting, be, and the same are hereby, approved and adopted, with the exception that paragraph 5 of such minutes be changed to read as follows:

Governor Magoon reported to the Commission that the amount authorized by resolution of the Executive Committee of the Commission, adopted at the eighteenth meeting, held October 4, 1905, to be expended in repairing the existing structures of Santo Tomas Hospital and in constructing new buildings at the hospital described in the resolution, had proved insufficient to complete the necessary work of repairs and construction as estimated for, and that work not estimated for had been found to be necessary in putting the hospital in proper condition. He asks that so much of the sum of $85,000, Panamanian silver, turned over to the Disbursing Officer of the Isthmian Canal Commission by

the Republic of Panama, and by the Disbursing Officer turned into the United States Treasury, be made available to be expended in addition to the amounts heretofore expended from the Commission's funds. On motion, it was

Resolved, That the request of the Governor be approved, and there is hereby appropriated out of the Commission's funds an additional $42,500, or so much thereof as may be necessary, to continue the repairs of present buildings, as provided in the estimate of the Chief Engineer, upon which the resolution adopted at the eighteenth meeting of the Executive Committee of the Commission was based, and for such additional work of repairs and construction, not heretofore estimated for, as may be authorized by the Governor of the Canal Zone, in placing Santo Tomas Hospital in satisfactory condition, as contemplated by the agreement with the Republic of Panama respecting this hospital.

2. The minutes of the twenty-fourth meeting of the Executive Committee, dated August 3, 1906, were read and, after discussion, the following was adopted:

Resolved, That the minutes of the twenty-fourth meeting of the Executive Committee, held August 3, 1906, as read at this meeting, be, and the same are hereby, approved and adopted, with the exception that paragraph 1 of such minutes be changed to read as follows:

1. *Resolved*, That on and after September 1, 1906, the Isthmian Canal Commission shall pay to the Panama Railroad Company a flat rate of $2.25 per ton of 2,000 pounds, with a minimum charge of 20 cents for a single shipment and a minimum weight per car of 20,000 pounds, for transportation of its material and supplies over all or any part of its railroad, excepting switching at stations, which will be charged for at the rates now in effect.

and with the further exception that paragraph 2 be referred to the General Counsel of the Commission for an expression of opinion as to the legality of the action indicated therein, pending the receipt of which action upon said paragraph shall be deferred.

3. The minutes of the one hundred and fourteenth meeting of the Isthmian Canal Commission, held September 6, 1906, were read and, after discussion, it was

Resolved, That the minutes of the one hundred and fourteenth meeting of the Isthmian Canal Commission, held September 6, 1906, as read at this meeting, be, and the same are hereby, approved and adopted, with the exception that in paragraph 7 the second resolution shall be changed to read as follows:

Resolved, That the depth of the channel from the Sosa lock to the 8-fathom curve in Panama Bay should be 45 feet deep below the mean tide, as recommended by the minority report of the Board of Consulting Engineers.

4. *Resolved*, That the acts and proceedings of the officers and employees of the Commission in execution of the provisions of the minutes as approved at this meeting be, and the same are hereby, ratified and adopted.

5. *Resolved*, That the General Counsel of the Commission be, and he is hereby, directed to investigate and report to the Commission as to the exact status of existing agreements between the Republic of Panama and the United States Government as to waterworks in the

city of Panama, sewerage, and street paving; also as to what authority, if any, has been given, either by the Walker Commission or the present Commission, for the execution of such work.

6. *Resolved*, That in order to reduce expense of printing and to avoid encumbering the minutes with lists of appointments, promotions, and other changes in personnel in the different departments of the Commission on the Isthmus or in the United States, such lists, when submitted for approval either to the Commission or to the Executive Committee, shall not be spread upon the minutes, but merely a record shall be made of the action taken thereon, such record showing the dates covered by the lists. This resolution shall apply both to changes made prior to this date, which have not yet been reported, as well as to those made in the future.

7. *Resolved*, That the agreement, dated Paris, France, September 25, 1906, between Ch. Vattis, representing the Compagnie Generale Transatlantique, of the first part, and Le Roy Park, representing the Isthmian Canal Commission, of the second part, covering the transportation in the steamers of said company from France and surrounding countries to the Isthmus of Panama, is hereby approved.

8. The Chairman presented the following letter written by him to the Chief Engineer under date of September 22, 1906:

I have before me your letter of September 11, with respect to the providing of facilities in the way of a lodge room for the various orders on the Isthmus, such as the Knights of Pythias, the Red Men, etc., and note your recommendation that at several points to be selected by you the Commission authorize the erection of plain two-story wooden buildings, the upper floor to be fitted as lodge rooms and the lower floor for church services or other gatherings.

You will recall that on May 2, 1906, one hundred and tenth meeting (see paragraph 6), the Commission authorized the erection of buildings in which to hold religious services.

I approve your recommendation that these buildings be made to serve the double purpose outlined by you, and you are authorized to proceed accordingly. The matter will be brought before the Commission for such modification of its former action or such fresh action as may be required.

Very respectfully,

T. P. Shonts,
Chairman.

Hon. Jno. F. Stevens,
Chief Engineer, Culebra.

Upon motion, it was

Resolved, That the action of the Chairman in approving the recommendation of the Chief Engineer for the construction of two-story buildings, the lower floors to be used for religious or other purposes, and upper floors to be used by various secret orders, be approved, but that the question as to whether the Commission has the legal right to appropriate funds for the construction of recreation halls, for the maintenance of musical societies, and for similar purposes, be referred to the General Counsel of the Commission for an expression of opinion.

9. *Resolved*, That the provisions of circular No. 18 of the Isthmian Canal Commission, dated November 4, 1905, with reference to the payment by the Commission of expenses connected with the transportation to the United States of the remains of employees who die on the Isthmus, which circular was approved at the one hundred and second meeting of the Commission, held January 1, 1906, shall apply to all citizens of the United States employed by the Commission whose compensation is fixt in United States currency.

10. *Resolved*, That the Department of Construction and Engineering shall be allowed the use of a wagonette at Culebra.

11. The Chairman laid before the Commission a letter from Mr. E. A. Drake, Assistant to the President of the Panama Railroad Company, dated September 19, 1906, inclosing a draft of lease of certain wharves by the Isthmian Canal Commission to the Panama Railroad Company at Cristobal and La Boca, Canal Zone, Isthmus of Panama, and requesting that the same be substituted for the draft of lease heretofore approved by paragraph 12 of the one hundred and twelfth meeting of the Commission, held at Ancon, July 5, 1906, the third clause having been amended to cover the lesser cost of cranes under the contract as finally awarded. Following is a copy of the revised form of lease:

This indenture, made and entered into this ——— day of ———, 1906, by and between the United States of America, acting by and through the Isthmian Canal Commission, parties of the first part, and the Panama Railroad Company, a corporation duly organized and existing under the laws of the State of New York, party of the second part, witnesseth:

First. That the parties of the first part hereby lease to the party of the second part, and the party of the second part hereby hires from the parties of the first part, the following property, to wit:

All those certain wharves erected by the parties of the first part at Cristobal, in the Canal Zone on the Isthmus of Panama, known and designated as "Wharf No. 11" and "Wharf No. 14;" and also all the wharf or wharves erected by the parties of the first part at La Boca in said Canal Zone, adjoining the wharf of the party of the second part at La Boca aforesaid; together with all the appurtenances thereof, and all appliances which are or may be placed thereon by the parties of the first part, for and during the term of ten years from the 1st day of February, 1906, fully to be complete and ended.

Second. The party of the second part shall pay as rental for said wharves, the sum of $17,825 per annum, payable in equal monthly installments on the first day of each and every month during said term; subject, however, to the provisions of article third hereof.

Third. It is contemplated by the parties hereto that the parties of the first part, acting as aforesaid, shall install upon said wharf or wharves at La Boca aforesaid, eight electric cranes, to be used in connection therewith, and at an estimated cost of $65,000. From and after the complete installation of said cranes, and their delivery to the party of the second part for use, the rental to be paid by the party of the second part shall be increased by the annual sum of $3,900, so that from and after such installation and delivery, the annual rental to be paid by the party of the second part for all the property leased hereunder, including said cranes, shall be the sum of $21,725.

Fourth. The party of the second part shall do and perform all repairs which may be necessary to the deck, superstructure, and appliances of said wharves, and the parties of the first part, acting as aforesaid, shall maintain and make all repairs required in the piling or substructure of said wharves during the term of this lease.

Fifth. Upon the termination of said term the party of the second part shall peaceably quit and surrender possession of all the property hereby leased to the parties of the first part, in as good condition as the same were received by said party of the second part, reasonable wear and tear excepted.

Sixth. If any rent which shall become due under the provisions hereof shall not be paid as hereinbefore provided, then it shall be lawful for the parties of the first part to reenter upon the premises hereby leased, and the same to have again, repossess, and enjoy, as of their first and former state, anything hereinbefore contained to the contrary thereof in any wise notwithstanding.

In witness whereof, the parties of the first part have caused these presents to be signed by the Chairman of said Isthmian Canal Commission and attested by its Secretary, and the seal of said Commission to be hereto affixed, and the party of the second part has caused these presents to be signed by the Assistant to its President, attested by its Assistant Secretary, and its corporate seal to be hereto affixed the day and year first hereinbefore written.

On motion, it was

Resolved, That the said lease as now drafted be, and the same hereby is, approved, and the officers of the Commission are directed to execute it in the form proposed, in lieu of the form heretofore approved.

12. The Chairman laid before the Commission a proposed contract relating to the lease from the Commission to the Panama Railroad Company of the machine shops and plant at Cristobal, and stated that the said contract properly exprest the preliminary arrangement between the Isthmian Canal Commission and the Panama Railroad Company, and was in the form approved by the General Counsel for the Commission. It was thereupon, on motion duly made and seconded, unanimously

Resolved, That the said contract be, and the same is hereby, approved, and the Chairman and the Secretary are directed to execute the same in the form prepared by General Counsel, as of date November 15, 1906.

13. The Chairman presented a proposed list of rules regulating the sale of tobacco to Government employees, which was approved, as follows:

Rules regulating the sale of tobacco to Government employees.

Tobacco will be sold only to employees of the Isthmian Canal Commission and the Panama Railroad Company, and to them only as follows:

1. Any employee personally may purchase at any of the Commission's commissary stores, at special rates to be fixt by the commissary department, not to exceed at one time 1 pound of tobacco products.

2. Any employee who shall resell tobacco supplies purchased thru the commissary department as aforesaid, or shall give the same away in the expectation of compensation in any form, will be suspended for ten days without pay and denied the privilege of making further purchases for the first offense and discharged for the second.

3. Any employee of the commissary department who shall sell tobacco in violation of these rules, or shall knowingly sell to an employee who has been suspended or discharged for violation of these rules, will be discharged.

14. The Chairman presented the application of Mr. Henry T. Cook for a franchise to construct an electric tramway from Panama to La Boca, and from Panama to the Sabanas.

After consideration, it was the sense of the Commission that until Mr. Cook is in a position to make a definite proposition and convince the Commission of his financial ability to carry out his plans as outlined in his application for franchise, no action should be taken.

15. The Chairman presented statements showing the appointments, promotions, and other changes in the personnel:

(*a*) In the Office of Administration of Isthmian Canal Affairs, at Washington, covering the period from April 1, 1906, to September 30, 1906, inclusive.

(*b*) In the Department of Government and Sanitation for the weeks ending August 4, 11, 18, and 25, September 1, 8, 15, 22, and 29, October 6, 13, 20, and 27, and November 3.

(*c*) In the Department of Construction and Engineering for the weeks ending August 4, 11, 18, and 25, September 1, 8, 15, 22, and 29, October 6, 13, 20, and 27, and November 3.

(*d*) In the Office of the Disbursing Officer and Local Auditor of the Isthmian Canal Commission on the Isthmus, for the months of August, September, and October, 1906.

(*e*) In the Division of Material and Supplies, for the months of August, September, and October, 1906.

(*f*) In the Municipalities of the Canal Zone, covering the period since the twenty-fourth meeting of the Executive Committee, held August 3, 1906.

All of which were ratified and approved.

16. Whereas, it appears from statistics prepared by the officers that the amount of transportation on the Panama Railroad furnished to officials and employees of the Isthmian Canal Commission on the Isthmus at one-half the regular passenger rates exceeds the lump sum of $5,000 authorized by resolution of the Commission at its one hundred and seventh meeting, held February 5, 1906, therefore be it

Resolved, That beginning with the month of July, 1906, and thereafter until statistics again warrant change, the lump sum of $6,000 per month be paid by the Commission for the transportation of their officials and employees on the regular scheduled trains of the Panama Railroad Company: *Provided, however*, That said lump sum allowance per month shall not include the railroad company's proportion of the rate from New York to Panama on thru business, but, on the contrary, that, as formerly, the sum of $1.20 per passenger shall be allowed and paid for the transportation of the Commission's employees enroute from New York to Panama.

17. *Resolved*, That whenever it becomes necessary for officials of the Isthmian Canal Commission to issue free transportation over the Panama Railroad in the interests of canal work, the Commission shall reimburse the railroad for such transportation to the amount of one-half the regular tariff rates.

18. Whereas, under resolution of the Commission at its meeting held September 6, 1906, the Chief Engineer was "requested to consider the advisability and practicability of constructing a basin with walls and gates at the head of each lock or flight of locks, in which basin the lake level will be maintained and all vessels stopt before entering the chamber of the lock, and furnish the Commission with his recommendations and estimate of the cost of same;" and

Whereas, the Chief Engineer, pursuant to such request, under date of November 5, reported that after careful consideration the estimated cost of such basins would aggregate $9,971,000, and that in his opinion the increased insurance by constructing the guard basins will be too small to offset the decreased efficiency of the canal, for which reason he recommends that the proposed addition of these basins to the upper locks be omitted from the canal plans, but that safety gates be installed: Now, therefore, be it

Resolved, That the Commission concurs in the recommendations of the Chief Engineer, and that the proposed addition of these basins to the upper locks be omitted from the canal plans, but that safety gates be installed.

19. The Commission took under consideration the action of the Chief Engineer in directing, upon the recommendation of the Chief Sanitary Officer, the extension of the public water system to certain barrios in the city of Panama which are now dependent for a water supply upon tank carts operated by the Health Department, the Chief Engineer reporting that 4-inch water pipes could be laid to these districts at an estimated cost of $4,000 United States currency. It was

Resolved, That, in view of the saving of cart hire which would thereby be effected and for sanitary reasons, the public water system of the city of Panama be extended to the barrios of Pueblo Nuevo, San Miguel, Caledonia, Maranon, Cuachapali, Trujillo, Camino del Ganado, and Cocoa Grove, from Twentieth street to Calle Lapaz.

20. The Commission having under consideration the necessity for providing additional hospital accommodations upon the Isthmus, it was

Resolved, That the enlargement of the hospital at Ancon by adding a second story to Ward 18 and to Ward 19 be, and the same hereby is, approved and authorized.

21. *Resolved*, That the construction of a dead-house, a stall for one horse, and a room to be used as quarters by attendants at Bas Obispo Hospital be, and the same is hereby, approved and authorized.

22. The Chairman presented a letter from the Governor of the Canal Zone, dated September 10, 1906, transmitting the request of

the Chief Sanitary Officer that he be authorized to invite Maj. Ronald Ross, of the Liverpool School of Tropical Medicine, to visit the Isthmus at the expense of the Isthmian Canal Commission for the purpose of inspecting sanitary and medical work of the Health Department, and, upon consideration, it was

Resolved, That the matter be referred to the General Counsel of the Commission for an expression of opinion as to whether or not the Commission has funds available for the purpose in question.

23. *Resolved*, That the construction of a cow stable and dairy building at Ancon Hospital be, and the same hereby is, approved and authorized.

24. The following circular of the Governor of the Canal Zone, conferring certain powers upon the Executive Secretary during the absence of the Governor from the Isthmus, was laid before the Commission, and upon motion duly made and seconded, was approved, ratified, and confirmed:

GOVERNMENT OF THE CANAL ZONE,
EXECUTIVE OFFICE,
Ancon, September 24, 1906.

CIRCULAR No. 61.

By authority of the following resolutions of the Executive Committee of the Isthmian Canal Commission, adopted August 2, 1905, and approved by the Commission:

"*Resolved*, That the Head of the Department of Government and Sanitation of the Isthmian Canal Commission be authorized to direct that the Executive Secretary of the Canal Zone shall sign such correspondence and orders relating to the work of the Department of Government and Sanitation, including the Government of the Canal Zone, as the Head of the Department of Government and Sanitation may direct.

* * * * * * *

"*Resolved*, That during the temporary absence or disability of the Head of the Department of Government and Sanitation the Executive Secretary of the Canal Zone is authorized to approve for payment such payrolls, vouchers, and public bills, and to approve such requisitions as the Head of the Department of Government and Sanitation is authorized or required to approve; such authorization to continue, unless otherwise directed by competent authority, so long as the temporary absence or disability may exist."

It is ordered and directed, That during the absence from the Isthmus of the undersigned, commencing September 25, 1906, the Executive Secretary of the government of the Canal Zone shall sign such correspondence and orders relating to the work of the Department of Government and Sanitation, including the Government of the Canal Zone, as would require the action of the Head of the Department of Government and Sanitation, or the Governor of the Canal Zone, if he were present on the Isthmus; and that during such absence he shall approve for payment such payrolls, vouchers, and public bills, and approve such requisitions as the Head of the Department of Government and Sanitation is authorized or directed to approve. This authority to continue during the absence of the undersigned, or until otherwise directed by competent authority.

CHARLES E. MAGOON,
Commissioner, Head of the Department of Government and Sanitation, Governor of the Canal Zone.

25. The order issued by the Chief Sanitary Officer under date of October 20, 1906, and approved, in the absence of the Head of the Department of Government and Sanitation, by the Executive Secretary, directing that the force at the morgue at Ancon Hospital should report to the Chief of the Board of Health Laboratory and that the laboratory should be a division of Ancon Hospital, the Chief of the Laboratory reporting to the Superintendent of Ancon Hospital, was laid before the Commission, and, after consideration, was approved and confirmed.

26. The following Executive Order of the Governor of the Canal Zone was laid before the Commission, and, upon consideration, was ordered referred to the General Counsel of the Commission:

GOVERNMENT OF THE CANAL ZONE
EXECUTIVE OFFICE,
Ancon, September 1, 1906.

EXECUTIVE ORDER.

By authority vested in me by section 51 of act No. 8 of the Isthmian Canal Commission, article 13 of the police rules and regulations of the Canal Zone, Isthmus of Panama, is hereby amended to read as follows:

"ARTICLE 13. The number and rates of pay of the members of the police force are fixt as follows: The said rates, where differing from rates of pay formerly allowed, to take effect on September 1, 1906.

	U. S. currency per annum.
1 captain	$4,000
1 first lieutenant	2,000
2 second lieutenants	1,600
9 first-class sergeants	1,200
1 detective, with rank of first-class sergeant	1,500
1 detective, with rank of first-class sergeant	1,200
9 sergeants	1,000
1 detective, with rank of sergeant	1,000
20 corporals	960
1 detective, with rank of corporal	960
50 first-class policemen	900
2 detectives, with rank of first-class policemen	900
200 policemen	480
2 detectives, with rank of policemen	480
1 chief clerk, class A	2,100
1 clerk, class C	1,800
4 clerks, class B	1,500
1 clerk, class A	1,200

"After one year of service the salaries of first-class sergeants and sergeants may, in the discretion of the Governor and upon the recommendation of the Chief of Police, be increased to $1,500 (United States currency) and $1,200 (United States currency) per annum, respectively.

"Each detective, with the rank of first-class sergeant, sergeant, corporal, or first-class policeman, may be allowed, by the Chief of Police, an account not to exceed $3 (United States currency) per day while in the performance of duty in lieu of actual expenses, the amount to be fixt as to each detective by order of the Chief of Police. Detectives with the rank of policeman may be

allowed, by the Chief of Police, an amount in lieu of actual expenses while in the performance of duty not to exceed $1 (United States currency) per day, to be fixt by order of the Chief of Police.

"CHARLES E. MAGOON, *Governor.*"

27. The Chairman presented the following letter from Chief Engineer Stevens, and, after consideration, the authorization recommended was granted:

ISTHMIAN CANAL COMMISSION,
DEPARTMENT OF CONSTRUCTION AND ENGINEERING,
Culebra, Canal Zone, November 9, 1906.

Mr. T. P. SHONTS,
Chairman Isthmian Canal Commission,
Ancon, Canal Zone.

SIR: I have authorized the following buildings since the one hundred and ninth meeting, held March 31, 1906, at which meeting a number of buildings were authorized by the Commission, but the Commission has not authorized the buildings shown below:

Palo Seco:
- Leper colony buildings.

La Boca:
- 2 water-closets.
- Fire department building.
- 1 range closet.
- 3 cook sheds.

Ancon:
- 8 type 13 houses.
- Jail.
- Pump house.
- Boiler house.
- 1 type 17 house (Tivoli Hill).
- 3 standard laborers' barracks.
- Second-story addition, wards 18 and 19.
- Fire department building.

Las Sabanas:
- Prison.

Corozal:
- Fire department building.
- Laborers' bath house.
- 3 range closets.
- 2 cook sheds.

Miraflores:
- Fire department building.
- 1 range closet.

Pedro Miguel:
- Mess hall.
- Coal chute.
- 7 type 16 houses.
- 10 type 17 houses.
- Laborers' bath house.
- Fire department building.
- 1 standard laborers' barracks.
- 6 range closets.
- Cement storehouse.

Pedro Miguel—Continued.
Plumbers' storehouse.
Building superintendent's office.
2 cook sheds.
Paraiso:
4 colored married quarters.
1 type 1 house.
10 type 15 houses.
3 range closets.
3 cook sheds.
Laborers' bath house.
Mess hall.
Cartagencita:
4 cook sheds.
3 range closets.
Cucaracha:
Tool shed for sanitary department.
Laborers' bath house.
3 cook sheds.
2 range closets.
Rio Grande Superior:
Closet.
Bath house.
Stable.
Enterprise:
25 laborers' camps.
4 range closets.
Rio Grande:
14-seat closet.
Pump house.
4 range closets.
2 range closets.
10 cook sheds.
Silver mess kitchen.
Culebra:
Corral annex.
Assistant Chief Engineer's house.
Coal platform.
Ice platform.
15 type 15 houses.
Air brake and construction and reading room.
Kitchen (Gold Hill).
Bath house (Gold Hill).
Fire department building.
10 type 5 houses.
10 type 15 houses.
Hotel laundry.
2 standard laborers' barracks.
Motor car house.
Fumigating building.
Lirio:
Planing mill.
2 cook sheds.
Silver mess kitchen.

Cerro:
- Bath house.
- Closet.

Empire:
- New jail.
- 1 type 3 house.
- Court-house, second judicial district.
- 2 houses, type 4.
- 6 houses, type 7.
- 2 houses, type 5.
- Cook shed.
- Pump keeper's residence (Comacho).
- 3 type 5 houses.
- Telephone station.
- Mess hall.
- Fire department building.
- Laborers' bath house.
- 1 range closet.
- 5 type 5 houses.
- Quarters for hotel help (2).
- Electric-light plant building.
- 4 type 17 houses.
- 1 type 8 house.
- 6 type 7 houses.
- 10 type 5 houses.

Cunette:
- 4 range closets.
- 4 cook sheds.

Casa Blanca:
- 2 cook sheds.

Las Cascadas:
- Machine shop.
- Oil house.
- Engine house.
- Coal chute.
- Mess hall.
- 7 type 16 houses.
- 10 type 15 houses.
- 1 standard laborers' barracks.
- Air-compressor plant.
- 1 cook shed.

Buena Vista:
- 1 range closet.
- 2 cook sheds.

Haut Obispo:
- Annex to hospital.
- 3 range closets.
- 7 cook sheds.

Bas Obispo:
- Jail.
- Mess hall.
- 1 standard laborers' barracks.
- Silver mess kitchen.
- Stable.

Gamboa:
- Laborers' bath house.
- 5 range closets.
- 3 cook sheds.
- Hydrographer's house.

Chagres:
- Laborers' bath house.
- 3 range closets.
- 3 cook sheds.

Alhajuela:
- Observer's office.

Matachin:
- Jail, Type A.

Bas Matachin:
- Pattern and car machine shop.
- Addition to car repair shop.
- New paint shop (mechanical division).
- 5 colored married quarters.
- 2 cook sheds.
- Bar iron rack.
- Instrument repair shop.

Gorgona:
- Jail.
- Pump-keepers' residence.
- Mess hall.
- 6 type 5 houses.
- Corral.
- Fire department building.
- 1 standard laborers' barracks.
- Hotel laundry.
- Plumbers' storehouse.
- 5 houses type 5.
- 1 house type 15.
- Commissary.

Caballo Viejo:
- Laborers' bath house.
- Closet and bath.
- 3 range closets.
- 3 cook sheds.
- Silver mess kitchen.

Juan Grande:
- 3 cook sheds.

Mamei:
- 3 cook sheds.
- 1 type 16 house.

San Pablo:
- Jail.
- 1 cook shed.

Tabernilla:
- Jail.
- Pump house.
- Yard master's shanty.
- Silver mess kitchen.
- 4 cook sheds.

Tabernilla—Continued.
Sand house.
4 laborers' barracks.
Sin La Voie:
Kitchen.
Gatun:
Kitchen.
Tent floors.
5 type 5 houses.
10 type 17 houses.
20 laborers' barracks.
Mess hall.
Plumbers' storehouse.
Cook shed and storeroom.
Water tower.
1 standard laborers' barracks.
5 type 5 houses.
5 type 14 houses.
Tool house.
Pay office.
Mount Hope:
Boiler house.
New jail.
1 house type 15.
Cristobal:
Jail addition.
2 2-story dormitories.
1 type 3 house.
30 barracks for colored laborers.
Chief, Div. M. & S. house.
Fire department building.
10 range closets.
6 cook sheds.
Bath and closet.
1 24-room dormitory.
2 houses type 14.
Colon:
2 gate houses.
1 type 13 house.
Boathouse.

Some of these buildings have been completed, while others are now under construction, and I recommend that formal authority be past at the present meeting of the Commission covering the authorization of all of these buildings.

Truly, yours,

JNO. F. STEVENS, *Chief Engineer.*

There being no further business to come before the meeting an adjournment was had, subject to the call of the Chairman.

ONE HUNDRED AND SIXTEENTH MEETING.

ANCON, CANAL ZONE,
November 20, 1906.

Present: Commissioners Shonts (Chairman), Stevens, Endicott, Hains, and Harrod, and Secretary Bishop. By invitation, General Counsel Rogers and Principal Assistant Engineer Ripley sat with the Commission.

The reading of the minutes of the previous meeting was deferred.

1. *Resolved*, That all vouchers, pay rolls, and public bills covering expenditures on the Isthmus within the Department of Construction and Engineering, the Department of Law and Government, the Department of Sanitation, the Purchasing Department, and the Department of Labor, Quarters, and Subsistence shall be approved for payment by the head of the respective departments in which and for the benefit of which the expenditures are made: *Provided*, That the head of each department above named is hereby authorized to designate a person in his department who shall approve for payment such vouchers, pay rolls, and public bills by direction of the head of such department.

Resolved further, That all vouchers, pay rolls, and public bills covering expenditures on the Isthmus in the Auditing Department and the Disbursing Department on the Isthmus shall be approved for payment either by the Chairman of the Commission or the Head of the Department of Construction and Engineering, or such person as they or either of them shall designate and authorize to approve for payment such vouchers, pay rolls, and public bills by his direction.

2. *Resolved*, That in the absence of the Head of the Department of Law and Government from the Isthmus, and pending the appointment of a Local Administrator of the Zone Government, the Executive Secretary of the Zone Government be authorized to exercise such powers and discharge such duties as may be intrusted to him by the Head of the said Department.

3. The Chairman stated that the following estimates to continue the construction of the Canal connecting the Atlantic and Pacific Oceans, for the fiscal year ending June 30, 1908, had been submitted in accordance with law, and on motion the same were approved and confirmed.

Estimates of appropriations to continue the construction of the Isthmian Canal, required for the service of the fiscal year ending June 30, 1908, by the Isthmian Canal Commission, compared with appropriations for the fiscal year ending June 30, 1907.

	Appropriations, fiscal year ending June 30, 1907.	Estimates appropriations, fiscal year ending June 30, 1908.
1. For salaries of members, officers, and employees of the Isthmian Canal Commission employed in the United States	$251,063.33	$224,947.00
2. For incidental expenses, including rents, cable and telegraph service, supplies, stationery, printing and binding, and actual necessary traveling expenses in the United States (including rent of the Panama Canal Building in the District of Columbia, $12,000; text-books and books of reference, $1,000, and printing and binding, $22,200)	117,179.36	91,525.00

Estimates of appropriations to continue the construction of the Isthmian Canal required for the service of the fiscal year ending June 30, 1908, etc.—Continued.

	Appropriations, fiscal year ending June 30, 1907.	Estimates appropriations, fiscal year ending June 30, 1908.
3. Pay of officers and employees other than skilled and unskilled labor on the Isthmus:		
For department of administration	$547,532.00	$642,016.00
For department of construction and engineering	2,102,980.00	2,156,180.00
For Canal Zone Government	600,000.00	684,270.00
For health and sanitation department	550,000.00	652,562.43
4. For skilled and unskilled labor on the Isthmus:		
For department of administration	461,411.00	379,674.00
For department of construction and engineering	8,589,250.00	8,261,906.00
For Canal Zone Government	50,000.00	25,244.40
For health and sanitation department	579,068.00	643,079.00
5. For purchase and delivery of material, supplies, equipment, buildings, and contingent and miscellaneous expenses:		
For department of administration	224,999.24	204,637.90
For department of construction and engineering	9,242,365.00	8,923,000.00
For Canal Zone Government	318,200.00	339,406.50
For health and sanitation department	822,367.15	792,810.50
6. To be used as an advance to the Panama Railroad Co. to continue the reequipment of the railroad of said company	1,000,000.00	1,385,000.00
	25,456,415.08	25,406,258.73

Appropriation to continue the construction of a canal connecting the Atlantic and Pacific Oceans for fiscal year ending June 30, 1908.

1. For salaries of members, officers, and employees of the Isthmian Canal Commission employed in the United States		$224,947.00
Salaries of members of the Commission:		
Chairman of the Commission		30,000.00
Governor of the Canal Zone		(a)
Gen. P. C. Hains	$7,500.00	
Less pay and allowances as an officer of the Army	4,125.00	
Net amount		3,375.00
Admiral M. T. Endicott	7,500.00	
Less pay and allowances as an officer of the Navy	6,220.00	
Net amount		1,280.00
B. M. Harrod		7,500.00
One commissioner		7,500.00
Secretary of the Commission		10,000.00
Office of the general counsel:		
1 general counsel, at $6,000		6,000.00
1 law clerk, at $2,400		2,400.00
1 clerk, at $1,200		1,200.00
Office of administration:		
1 chief of office		4,500.00
3 chiefs of division, at $2,000		6,000.00
3 clerks, at $1,600		4,800.00
2 clerks, at $1,500		3,000.00
2 clerks, at $1,400		2,800.00
7 clerks, at $1,200		8,400.00
7 clerks, at $1,000		7,000.00
1 messenger, at $660		660.00
2 messengers, at $600		1,200.00
2 messenger boys, at $480		960.00
1 messenger boy, at $420		420.00

(a) See item No. 3.

Custodian's force:		
1 shipping and property clerk, at $1,400		$1,400.00
1 telegrapher, at $1,200		1,200.00
1 clerk, at $900		900.00
1 engineer and electrician, at $1,200		1,200.00
1 head watchman, at $840		840.00
2 watchmen, at $720		1,440.00
1 watchman-messenger-fireman, at $720		720.00
1 elevator conductor, at $720		720.00
2 laborers, at $600		1,200.00
1 messenger boy, at $420		420.00
1 telephone operator, at $600		600.00
1 head charwoman, at $300		300.00
4 charwomen, at $240		960.00
General auditor's office:		
1 general auditor		10,000.00
1 chief deputy, at $2,800		2,800.00
2 clerks, at $1,800		3,600.00
2 clerks, at $1,600		3,200.00
3 clerks, at $1,200		3,600.00
1 clerk, at $1,000		1,000.00
1 clerk, at $900		900.00
1 messenger, at $600		600.00
Office of general purchasing officer:		
1 general purchasing officer		12,000.00
1 chief clerk, at $2,000		2,000.00
1 clerk, at $1,800		1,800.00
1 clerk, at $1,500		1,500.00
2 clerks, at $1,400		2,800.00
3 clerks, at $1,200		3,600.00
5 clerks, at $1,000		5,000.00
5 clerks, at $900		4,500.00
1 messenger, at $600		600.00
1 messenger boy, at $420		420.00
1 messenger boy, at $360		360.00
Office of disbursing officer:		
1 disbursing officer		3,600.00
1 chief clerk, at $2,000		2,000.00
1 clerk, at 1,600		1,600.00
5 clerks, at $1,400		7,000.00
4 clerks, at $1,000		4,000.00
2 clerks, at $900		1,800.00
1 messenger, at $720		720.00
Committee on engineering:		
1 chief draftsman, at $2,500		2,500.00
1 clerk, at $1,800		1,800.00
1 clerk, at $1,200		1,200.00
2 messenger boys, at $420		840.00
Office of assistant purchasing agent, New York:		
1 assistant purchasing agent, at $3,000	$3,000.00	
1 chief clerk, at $1,500	1,500.00	
1 clerk, at $1,380	1,380.00	
1 clerk, at $1,200	1,200.00	
1 clerk, at $936	936.00	

Office of assistant purchasing agent, New York—Continued.		
2 clerks, at $900	$1,800.00	
1 clerk, at $840	840.00	
1 clerk, at $720	720.00	
1 clerk, at $480	480.00	
1 messenger, at $360	360.00	
1 messenger, at $300	300.00	
1 warehouseman, at $900	900.00	
	13,416.00	
By resolution of the Isthmian Canal Commission adopted November 9, 1905, the Commission pays one-third of the above salaries		$4,472.00
2 clerks, at $1,200 (Commission pays entire salary)		2,400.00
Office of assistant purchasing agent, New Orleans:		
1 assistant purchasing agent, at $2,200		2,200.00
1 clerk, at $1,000		1,000.00
1 messenger, at $480		480.00
Office of assistant purchasing agent, Tacoma:		
1 assistant purchasing agent, at $2,000		2,000.00
1 clerk, at $900		900.00
Office of inspecting engineer, New York:		
1 inspecting engineer, at $3,600	3,600.00	
1 assistant inspecting engineer, at $1,920	1,920.00	
1 clerk, at $1,040	1,040.00	
1 clerk, at $1,000	1,000.00	
1 clerk, at $960	960.00	
1 clerk, at $780	780.00	
1 clerk, at $480	480.00	
	9,780.00	
By resolution of the Isthmian Canal Commission adopted November 9, 1905, the Commission pays one-third of the above salaries		3,260.00
Services of inspecting firms and special lumber and other inspectors in the United States		(a)
Total		224,947.00
2. For incidental expenses, including rents, cable and telegraph service, supplies, stationery, printing and binding, and actual necessary traveling expenses in the United States (including rent of the Panama Canal Building in the District of Columbia, $12,000, text-books, and books of reference, $1,000; and printing and binding, $22,200)		91,525.00
For rent of buildings in the United States (including the Panama Canal Building in the District of Columbia, $12,000)		14,200.00
Traveling expenses of officers and employees of the Commission in the United States		8,950.00
Fuel, light, and power		2,700.00
Telegrams, cablegrams, and telephones		20,200.00
Furniture and fixtures		875.00
Stationery, office supplies, books, including text-books, and books of reference, printing and specifications		12,675.00

(a) See item No. 5.

Advertising, by newspapers and posters		$6,950.00
Incidental expenses of administration		2,775.00
For printing and binding to be done at Washington		22,200.00
Total		91,525.00
3. Pay of officers and employees other than skilled and unskilled labor on the Isthmus		4,135,028.43
For department of administration	$642,016.00	
For department of construction and engineering	2,156,180.00	
For Canal Zone Government	684,270.00	
For health and sanitation department	652,562.43	

DEPARTMENT OF ADMINISTRATION.

Division of material and supplies:	
Employees on annual salary (gold)—	
1 chief of division, at $9,000	$9,000.00
1 assistant chief of division, at $4,000	4,000.00
1 chief clerk, at $3,000	3,000.00
1 chief clerk, at $2,700	2,700.00
1 chief clerk, at $2,400	2,400.00
3 chief clerks, at $2,100	6,300.00
1 secretary, at $2,100	2,100.00
3 accountants, at $2,000	6,000.00
2 accountants, at $1,800	3,600.00
5 accountants, at $2,100	10,500.00
16 clerks, at $1,800	28,800.00
41 clerks, at $1,500	61,500.00
20 clerks, at $1,200	24,000.00
1 clerk, at $1,080	1,080.00
14 copyists, at $900	12,600.00
1 traveling inspector, at $3,000	3,000.00
1 storekeeper, at $3,000	3,000.00
1 storekeeper, at $2,500	2,500.00
3 storekeepers, at $2,100	6,300.00
2 storekeepers, at $1,980	3,960.00
3 storekeepers, at $1,800	5,400.00
2 storekeepers, at $1,500	3,000.00
1 stock foreman, at $1,800	1,800.00
1 store foreman, at $1,800	1,800.00
1 stockman, at $1,500	1,500.00
1 storeman, at $1,000	1,000.00
3 storemen, at $900	2,700.00
1 storeman, at $720	720.00
1 receiving and forwarding agent, at $2,500	2,500.00
1 receiving clerk, stationery department, at $1,800	1,800.00
1 stationer and printer, at $2,400	2,400.00
1 superintendent of transportation, at $2,100	2,100.00
1 veterinary surgeon, at $2,100	2,100.00
1 assistant veterinary, at $1,080	1,080.00
1 wagon master, at $1,500	1,500.00
3 wagon masters, at $1,080	3,240.00
1 wagon master, at $1,080	1,080.00

Division of material and supplies—Continued.

Employees on annual salary (gold)—Continued.

1 corral-yard foreman, at $600	$600.00
1 lumber inspector, at $2,400	2,400.00
1 inspector of material, at $1,800	1,800.00
18 teamsters at $480	8,640.00
1 general foreman, at $2,100	2,100.00
1 general foreman, at $1,800	1,800.00
3 foremen, at $1,800	5,400.00
4 foremen, at $1,680	6,720.00
1 foreman harness maker, at $900	900.00
14 foremen, at $1,500	21,000.00
6 foremen, at $1,200	7,200.00
7 foremen, at $1,080	7,560.00
8 foremen, at $1,000	8,000.00
1 foreman, at $900	900.00
1 general lumber foreman, at $2,100	2,100.00
1 lumber foreman, at $2,100	2,100.00
1 lumber foreman, at $1,800	1,800.00
1 lumber foreman, at $1,500	1,500.00
1 lumber foreman, at $1,500	1.500.00
1 foreman carpenter, at $1,500	1,500.00
1 checker, at $780	780.00
2 checkers, at $720	1,440.00
1 checker, at $480	480.00
1 typewriter repair man, at $1,500	1,500.00
1 craneman, $1,200	1,200.00
1 blacksmith, at $1,200	1.200.00
1 blacksmith, at $1,080	1,080.00
1 foreman printer, at $1,800	1,800.00
1 foreman printer, at $1,000	1,000.00
1 engineer, printing room, at $1,500	1,500.00

Employees on annual salary (silver, reduced to gold)—

	Silver.	
1 clerk, at $2,400	$2,400.00	1,200.00
1 clerk, at $1,800	1,800.00	900.00
2 clerks, at $1,680	3,360.00	1,680.00
1 clerk, at $1,560	1,560.00	780.00
7 clerks, at $1,500	10,500.00	5,250.00
1 clerk, at $1,440	1,440.00	720.00
5 clerks, at $1,200	6,000.00	3,000.00
1 clerk, at $1,080	1,080.00	540.00
1 clerk, at $960	960.00	480.00
5 clerks, at $900	4,500.00	2,250.00
1 clerk, at $480	480.00	240.00
2 checkers, at $1,500	3,000.00	1,500.00
1 checker, at $1,440	1,440.00	720.00
10 checkers, at $1,200	12,000,00	6,000,00
3 checkers, at $1,080	3,240.00	1,620.00
2 checkers, at $900	1,800.00	900.00
1 chief watchman, at $1,800	1,800.00	900.00
1 chief watchman, at $1,440	1,440.00	720.00
1 watchman, at $960	960.00	480.00
16 watchmen, at $900	14,400.00	7,200.00

Division of material and supplies—Continued.

Employees on annual salary (silver, reduced to gold)—Continued.

	Silver.	
11 watchmen, at $780	$8,580.00	$4,290.00
1 watchman, at $720	720.00	360.00
1 watchman, at $600	600.00	300.00
1 messenger, at $720	720.00	360.00
2 messengers, at $600	1,200.00	600.00
1 messenger, at $540	540.00	270.00
1 messenger, at $480	480.00	240.00
2 messengers, at $420	840.00	420.00
1 office boy, at $240	240.00	120.00
1 janitor, at $1,080	1,080.00	540.00
1 janitor, at $960	960.00	480.00
1 janitor, at $900	900.00	450.00
2 janitors, at $720	1,440.00	720.00
1 janitor, at $480	480.00	240.00
1 stock keeper, at $720	720,00	360.00
4 clerks (hourly basis)	.....	2,016.00
5 checkers for	.....	2,112.00
2 storemen for	.....	768.00

Divison of disbursements—

1 disbursing officer, at $7,860	7,860.00
1 chief clerk, at $3,600	3,600.00
1 assistant chief clerk, at $2,400	2,400.00
1 bookeeper, at $2,100	2,100.00
1 receiving teller, at $1,850	1,850.00
1 secretary to disbursing officer, $1,800	1,800.00
1 file clerk, at $2,000	2,000.00
1 stenographer, at $1,800	1,800.00
1 stenographer, at $1,500	1,500.00
1 cashier, at $3,100	3,100.00
3 paymasters, at $2,500	7,500.00
1 pay clerk, at $2,200	2,200.00
2 pay clerks, at $2,100	4,200.00
2 pay clerks, at $2,000	4,000.00
2 pay clerks, at $1,850	3,700.00
2 check clerks, at $1,800	3,600.00
1 accountant, at $2,000	2,000.00
2 accountants, at $1,800	3,600.00
1 stenographer and typewriter, at $1,500	1,500.00
1 accountant, at $2,100	2,100.00
1 accountant, at $2,000	2,000.00
6 accountants, at $1,800	10,800.00
6 clerks, at $1,500	9,000.00
6 clerks, at $1,200	7,200.00
1 accountant, at $2,100	2,100.00
1 accountant, at $1,800	1,800.00
2 clerks, at $1,500	3,000.00
1 chief time inspector, at $2,000	2,000.00
2 inspectors, at $1,800	3,600.00
2 inspectors, at $1,600	3,200.00
17 inspectors, at $1,500	25,500.00
4 inspectors, at $1,200	4,800.00

Division of disbursements—Continued.	
1 stenographer, at $1,500	$1,500.00
1 stenographer, at $1,200	1,200.00
1 clerk, at $1,800	1,800.00
1 clerk, at $1,500	1,500.00
1 clerk, at $1,200	1,200.00
1 money counter, at $900	900.00
1 money counter, at $840	840.00
4 money counters, at $720	2,880.00
1 chief messenger, at $600	600.00
1 messenger, at $300	300.00
1 janitor, at $360	360.00
1 assistant janitor, at $300	300.00
2 janitor-messengers, at $450	900.00
Division of audits:	
1 local auditor, at $3,600	3,600.00
1 secretary to local auditor, at $1,800	1,800.00
1 traveling auditor, at $1,800	1,800.00
1 chief of division, at $2,100	2,100.00
1 chief of division, at $2,100	2,100.00
1 chief bookkeeper, at $1,800	1,800.00
1 chief claim clerk, at $2,100	2,100.00
1 material and property clerk, at $1,800	1,800.00
12 clerks, at $1,800	21,600.00
22 clerks, at $1,500	33,000.00
16 clerks, at $1,200	19,200.00
1 messenger, at $600	600.00
2 messengers, at $480	960.00
Legal department:	
1 attorney, at $5,000	5,000.00
1 Spanish legal adviser, at $4,000	4,000.00
1 clerk, at $1,800	1,800.00
To provide for necessary increases in force and adjustment of salaries:	
Division of material and supplies	2,780.00
Division of disbursements	400.00
Division of audits	2,600.00
Total	642,016.00

DEPARTMENT OF CONSTRUCTION AND ENGINEERING.

1 chief engineer, at $30,000	$30,000.00
1 assistant chief engineer, at $15,000	15,000.00
1 office engineer, at $3,000	3,000.00
1 principal assistant engineer, at $7,000	7,000.00
2 division engineers, at $7,500	15,000.00
2 division engineers, at $6,000	12,000.00
1 division engineer, at $3,600	3,600.00
2 assistant division engineers, at $4,000	8,000.00
6 resident engineers, at $3,600	21,600.00
2 resident engineers, at $3,300	6,600.00
1 mechanical engineer, at $4,000	4,000.00
2 assistant engineers, at $5,000	10,000.00
1 assistant engineer, at $4,000	4,000.00

3 assistant engineers, at $3,300	$9,900.00
4 assistant engineers, at $3,000	12,000.00
10 assistant engineers, at $2,700	27,000.00
7 assistant engineers, at $2,400	16,800.00
1 superintendent of motive power and machinery, at $6,000	6,000.00
1 manager of labor and quarters, at $7,200	7,200.00
1 assistant manager of labor and quarters, at $4,000	4,000.00
1 master builder, at $6,000	6,000.00
1 assistant master builder, at $3,600	3,600.00
1 private secretary, at $3,000	3,000.00
6 clerks, at $2,400	14,400.00
8 clerks, at $2,100	16,800.00
47 clerks, at $1,800	84,600.00
149 clerks, at $1,500	223,500.00
75 clerks, at $1,200	90,000.00
1 chief of records, at $3,000	3,000.00
9 clerks, at $900	8,100.00
11 instrument men, at $2,100	23,100.00
18 transit men, at $1,800	32,400.00
29 level men, at $1,500	43,500.00
26 rodmen, at $1,200	31,200.00
33 rodmen, at $1,000	33,000.00
1 draftsman, at $2,700	2,700.00
3 draftsmen, at $2,400	7,200.00
2 draftsmen, at $2,100	4,200.00
15 draftsmen, at $1,800	27,000.00
1 draftsman, at $1,600	1,600.00
14 draftsmen, at $1,500	21,000.00
5 draftsmen, at $1,200	6,000.00
1 draftsman, at $1,000	1,000.00
1 timekeeper, at $2,400	2,400.00
5 timekeepers, at $2,100	10,500.00
5 timekeepers, at $1,800	9,000.00
12 timekeepers, at $1,500	18,000.00
49 timekeepers, at $1,200	58,800.00
15 timekeepers, at $1,000	15,000.00
12 timekeepers, at $900	10,800.00
1 superintendent, at $5,000	5,000.00
2 superintendents, at $4,200	8,400.00
1 superintendent, at $3,600	3,600.00
5 superintendents, at $3,000	15,000.00
2 superintendents, at $2,700	5,400.00
8 superintendents, at $2,400	19,200.00
3 superintendents, at $2,100	6,300.00
3 foremen, at $2,700	8,100.00
16 foremen, at $2,400	38,400.00
28 foremen, at $2,100	58,800.00
96 foremen, at $1,800	172,800.00
167 foremen, at $1,500	250,500.00
102 foremen, at $1,200	122,400.00
13 foremen, at $1,000	13,000.00
33 foremen, at $900	29,700.00
1 train master, at $2,700	2,700.00
1 general yard master, at $2,400	2,400.00

19 yard masters, at $2,220	$42,180.00
1 electrical engineer, at $4,800	4,890.00
1 testing engineer, at $3,000	3,000.00
2 supervisors, at $3,000	6,000.00
6 supervisors, at $2,700	16,200.00
3 supervisors, at $2,400	7,200.00
6 supervisors, at $2,100	12,600.00
3 supervisors, at $1,800	5,400.00
2 supervisors, at $1,500	3,000.00
10 miscellaneous employees	10,000.00
To provide for necessary increases in force and adjustment of salaries	250,000.00
Total	2,156,180.00

CANAL ZONE GOVERNMENT.

Executive office:	
1 governor of Canal Zone, at $17,500	$17,500.00
1 executive secretary, at $3,600	3,600.00
3 clerks, at $2,100	6,300.00
1 private secretary to Governor, at $2,100	2,100.00
6 clerks, at $1,800	10,800.00
15 clerks, at $1,500	22,500.00
2 clerks, at $1,200	2,400.00
1 superintendent administration building, at $1,200	1,200.00
1 messenger, at $720	720.00
1 messenger, at $300	300.00
3 watchmen, at $600	1,800.00
Personnel, governor's launch:	
1 captain, at $900	900.00
1 engineer, at $900	900.00
Office of water commissioner:	
1 water commissioner, at $4,000	4,000.00
1 plumbing inspector and deputy water commissioner, at $2,400	2,400.00
1 chief clerk, at $1,800	1,800.00
1 clerk, at $1,500	1,500.00
Operation of water system, Panama:	
1 cashier, at $1,800	1,800.00
1 plumbing inspector, at $1,800	1,800.00
1 meter inspector, at $1,800	1,800.00
1 water inspector, at $1,500	1,500.00
1 sewer foreman, at $1,500	1,500.00
1 clerk, at $1,200	1,200.00
Operation of water system, Zone, from Comacho to Gatun:	
1 supervisor, at $2,400	2,400.00
1 clerk, at $1,500	1,500.00
Operation of water system, Ancon:	
1 engineer, at $1,500	1,500.00
1 engineer, at $1,200	1,200.00
1 fireman, at $600	600.00
1 fireman, at $450	450.00
Operation of water system, Cucaracha:	
1 engineer, at $1,500	1,500.00
1 engineer, at $1,200	1,200.00
1 fireman, at $600	600.00
2 firemen, at $450	900.00

Operation of water system, Culebra:	
1 engineer, at $1,500	$1,500.00
1 engineer, at $1,200	1,200.00
1 fireman, at $600	600.00
2 firemen, at $450	900.00
Operation of water system, Comacho:	
1 watchman, at $1,200	1,200.00
Operation of water system, Bas Obispo:	
1 engineer, at $1,500	1,500.00
1 engineer, at $1,200	1,200.00
1 fireman, at $600	600.00
1 fireman, at $450	450.00
Operation of water system, Gorgona:	
1 engineer, at $1,800	1,800.00
1 engineer, at $1,200	1,200.00
2 firemen, at $600	1,200.00
2 firemen, at $450	900.00
Operation of water system, Tabernilla:	
1 engineer, at $1,200	1,200.00
2 firemen, at $450	900.00
Operation of water system, Gatun:	
1 engineer, at $1,800	1,800.00
1 engineer, at $1,200	1,200.00
1 fireman, at $600	600.00
3 firemen, at $450	1,350.00
Operation of water system, Colon, Cristobal, and Mount Hope:	
1 supervisor, at $2,400	2,400.00
1 clerk, at $1,800	1,800.00
1 clerk, at $1,500	1,500.00
1 clerk, at $1,200	1,200.00
1 plumbing inspector, at $1,800	1,800.00
1 meter inspector, at $1,800	1,800.00
1 foreman, at $1,500	1,500.00
1 chief engineer, at $1,800	1,800.00
2 engineers, at $1,200	2,400.00
4 firemen, at $600	2,400.00
1 watchman, reservoir, at $1,200	1,200.00
Fire department:	
1 chief, at $2,500	2,500.00
1 assistant chief, at $1,800	1,800.00
1 engineer, at $1,800	1,800.00
1 electrician, at $1,800	1,800.00
3 captains, at $1,800	5,400.00
2 lieutenants, at $1,620	3,240.00
1 clerk, at $1,500	1,500.00
14 firemen, at $1,500	21,000.00
Prosecuting attorney's office:	
1 prosecuting attorney, at $3,600	3,600.00
1 interpreter and translator, at $1,200	1,200.00
The judiciary:	
1 chief justice, at $6,500	6,500.00
2 assistant justices, at $6,000	12,000.00
1 supreme court clerk, at $3,000	3,000.00
3 circuit court clerks, at $2,000	6,000.00

The judiciary—Continued.	
1 interpreter, at $2,000	$2,000.00
2 interpreters and translators, at $1,800	3,600.00
1 messenger, at $300	300.00
3 janitors, at $480	1,440.00
Police department:	
1 chief, at $4,000	4,000.00
1 chief clerk, at $2,100	2,100.00
1 inspector, at $1,600	1,600.00
3 clerks, at $1,500	4,500.00
1 clerk, at $1,200	1,200.00
1 first lieutenant, at $2,000	2,000.00
1 second lieutenant, at $1,600	1,600.00
2 clerks, at $1,800	3,600.00
15 first-class sergeants, at $1,500	22,500.00
15 sergeants, at $1,200	18,000.00
50 corporals, at $960	48,000.00
100 first-class policemen, at $900	90,000.00
200 policemen, at $480	96,000.00
1 janitor, at $300	300.00
Collector of revenues:	
1 collector of revenues, at $5,000	5,000.00
1 deputy collector, at $2,400	2,400.00
1 deputy collector, at $2,100	2,100.00
1 inspector and deputy collector of customs, at $1,500	1,500.00
5 clerks, at $1,800	9,000.00
1 bookkeeper, at $1,800	1,800.00
2 assistant bookkeepers, at $1,500	3,000.00
9 clerks, at $1,500	13,500.00
1 storekeeper, at $1,500	1,500.00
3 clerks, at $1,200	3,600.00
1 copyist, at $900	900.00
Division of posts:	
1 postmaster, at $2,200	2,200.00
5 postmasters, at $1,800	9,000.00
7 postmasters, at $1,650	11,550.00
5 postmasters, at $1,500	7,500.00
22 postal clerks, at $1,500	33,000.00
13 postal clerks, at $1,200	15,600.00
1 postal clerk, at $900	900.00
4 railway-mail agents, at $1,000	4,000.00
1 postal messenger, at $720	720.00
18 post-office messengers, at $450	8,100.00
3 office messengers, at $300	900.00
Land division:	
1 surveyor, at $2,100	2,100.00
2 land agents, at $1,500	3,000.00
1 transit man, at $1,800	1,800.00
2 level men, at $1,500	3,000.00
Bureau of municipalities:	
1 chief of bureau, at $3,600	3,600.00
1 chief clerk, at $2,100	2,100.00
2 clerks, at $1,800	3,600.00
2 clerks, at $1,500	3,000.00

Probable increase in salaries or number of employees during the fiscal year in the Canal Zone government	$4,950.00
Commutation of quarters	2,000.00
Total	684,270.00

HEALTH AND SANITATION DEPARTMENT.

Office of chief sanitary officer:	
1 chief sanitary officer, at $10,000	$10,000.00
1 executive officer, at $3,300	3,300.00
1 chief clerk, at $2,100	2,100.00
1 clerk, at $2,100	2,100.00
2 clerks, at $1,800	3,600.00
8 clerks, at $1,500	12,000.00
3 clerks, at $1,200	3,600.00
1 vaccinator, at $1,500	1,500.00
1 horticulturist, at $1,500	1,500.00
1 copyist, at $720	720.00
1 messenger, at $480	480.00
1 janitor, at $600	600.00
1 watchman, at $600	600.00
Property division:	
1 storekeeper, at $1,800	1,800.00
1 storekeeper, at $1,200	1,200.00
4 clerks, at $1,500	6,000.00
1 clerk, at $1,200	1,200.00
Board of health laboratory:	
1 chief of laboratory, at $4,000	4,000.00
1 pathologist, at $3,000	3,000.00
1 bacteriologist, at $3,000	3,000.00
1 laboratory assistant, at $1,200	1,200.00
1 laboratory assistant, at $720	720.00
Santo Tomas Hospital, Panama:	
1 superintendent, at $3,600	3,600.00
2 internes, at $1,200	2,400.00
1 nurse, at $1,200	1,200.00
2 nurses, at $600	1,200.00
Chief quarantine office, Panama:	
1 chief quarantine officer, at $7,000	7,000.00
1 assistant quarantine officer, at $2,400	2,400.00
1 clerk, at $1,200	1,200.00
1 custodian, also serving as disinfector, at $1,500	1,500.00
2 quartermasters, at $900	1,800.00
1 engineer, at $1,500	1,500.00
2 firemen, at $420	840.00
3 sailors, at $360	1,080.00
1 matron, at $300	300.00
Quarantine service, Colon:	
1 quarantine officer, at $3,500	3,500.00
1 assistant quarantine officer, at $1,800	1,800.00
1 quartermaster and disinfector, at $1,500	1,500.00
1 clerk and custodian, at $1,200	1,200.00
Health office, Panama:	
1 health officer, at $3,600	3,600.00
1 assistant health officer, at $2,400	2,400.00

Health office, Panama—Continued.	
1 physician, at $1,800	$1,800.00
1 clerk, at $1,800	1,800.00
1 clerk, at $1,500	1,500.00
1 clerk, at $1,200	1,200.00
1 copyist, at $900	900.00
2 sanitary inspectors, at $1,800	3,600.00
5 sanitary inspectors, at $1,500	7,500.00
1 storekeeper, at $1,500	1,500.00
1 storekeeper, at $900	900.00
1 foreman, at $1,200	1,200.00
9 foremen, at $900	8,100.00
Sanitation, Canal Zone:	
1 chief sanitary inspector, at $3,600	3,600.00
1 assistant chief sanitary inspector, at $2,100	2,100.00
2 clerks, at $1,800	3,600.00
1 clerk, at $1,500	1,500.00
3 clerks, at $1,200	3,600.00
1 sanitary inspector, at $2,100	2,100.00
4 sanitary inspectors, at $1,800	7,200.00
7 sanitary inspectors, at $1,500	10,500.00
7 sanitary inspectors, at $1,200	8,400.00
Health office, Colon:	
1 health officer, at $3,600	3,600.00
1 assistant health officer, at $1,800	1,800.00
1 clerk, at $1,800	1,800.00
1 clerk, at $1,500	1,500.00
1 timekeeper, at $1,500	1,500.00
1 assistant timekeeper, at $900	900.00
2 sanitary inspectors, at $1,800	3,600.00
2 sanitary inspectors, at $1,500	3,000.00
2 sanitary inspectors, at $1,200	2,400.00
2 sanitary foremen, at $900	1,800.00
3 assistant sanitary inspectors, at $720	2,160.00
1 foreman carpenter, at $1,620	1,620.00
Hospital division:	
1 director of hospitals, at $8,000	8,000.00
1 interne, at $1,800	1,800.00
1 visiting chaplain, at $480	480.00
1 quartermaster, at $900	900.00
1 engineer, at $900	900.00
1 fireman, at $420	420.00
3 sailors, at $360	1,080.00
3 conductors of hospital cars, at $720	2,160.00
1 messenger, at $180	180.00
Physicians and internes:	
2 physicians, at $1,800	3,600.00
2 internes, at $1,200	2,400.00
Nurses, male and female:	
4 nurses, at $900	3,600.00
4 nurses, at $720	2,880.00
Clerks:	
1 clerk, at $1,800	1,800.00
3 clerks, at $1,500	4,500.00

Ancon Hospital:	
1 superintendent, at $7,000	$7,000.00
1 chief of surgical clinic, at $4,500	4,500.00
1 chief of medical clinic, at $4,500	4,500.00
1 oculist and aurist, at $4,500	4,500.00
1 pathologist, at $3,000	3,000.00
3 physicians, at $3,000	9,000.00
3 physicians, at $2,400	7,200.00
15 internes, at $1,200	18,000.00
1 superintendent of nurses, at $1,800	1,800.00
1 assistant superintendent of nurses, at $1,500	1,500.00
1 dietist, at $1,200	1,200.00
1 operating-room nurse, at $1,200	1,200.00
30 nurses, at $900	27,000.00
30 nurses, at $720	21,600.00
1 clerk, at $2,100	2,100.00
1 clerk, at $1,800	1,800.00
2 clerks, at $1,500	3,000.00
2 clerks, at $1,200	2,400.00
1 commissary, at $1,500	1,500.00
1 storekeeper, at $1,500	1,500.00
2 druggists, at $1,500	3,000.00
1 druggist, at $900	900.00
1 quartermaster, at $1,200	1,200.00
2 chaplains, resident, at $1,200	2,400.00
1 chaplain, visiting, at $480	480.00
1 embalmer, at $1,500	1,500.00
1 superintendent of laundry, at $1,500	1,500.00
1 assistant superintendent of laundry, at $1,200	1,200.00
1 chief cook, at $1,020	1,020.00
1 head waiter, at $720	720.00
1 dairyman, at $900	900.00
Colon Hospital:	
1 superintendent, at $5,000	5,000.00
1 pathologist, at $3,000	3,000.00
2 chiefs of clinics, at $3,600	7,200.00
1 physician, at $3,000	3,000.00
2 physicians, at $2,400	4,800.00
1 physician, at $1,800	1,800.00
12 internes, at $1,200	14,400.00
1 superintendent of nurses, at $1,800	1,800.00
1 assistant superintendent of nurses, at $1,500	1,500.00
1 dietist, at $1,200	1,200.00
1 operating-room nurse, at $1,200	1,200.00
11 nurses, at $900	9,900.00
29 nurses, at $720	20,880.00
1 clerk, at $1,800	1,800.00
2 clerks, at $1,500	3,000.00
3 clerks, at $1,200	3,600.00
1 commissary and storekeeper, at $1,500	1,500.00
1 druggist, at $1,200	1,200.00
2 druggists, at $1,200	2,400.00
1 steward, at $1,800	1,800.00
2 chaplains, resident, at $1,200	2,400.00

Colon Hospital—Continued.	
1 quartermaster, at $900	$900.00
1 chief cook, at $780	780.00
1 head waiter, at $720	720.00
Empire Hospital:	
3 physicians, at $3,000	9,000.00
2 physicians, at $2,400	4,800.00
2 internes, at $1,800	3,600.00
3 internes, at $1,200	3,600.00
5 nurses, at $900	4,500.00
6 nurses, at $720	4,320.00
1 clerk, at $1,800	1,800.00
5 clerks, at $1,500	7,500.00
1 steward, at $1,500	1,500.00
1 druggist, at $1,800	1,800.00
1 druggist, at $1,500	1,500.00
1 quartermaster, at $1,200	1,200.00
1 storekeeper, at $1,200	1,200.00
Miraflores Dam Camp:	
1 physician, at $2,400	2,400.00
1 interne, at $1,800	1,800.00
1 dispenser of quinine, at $720	720.00
Culebra Hospital and Dispensary:	
2 physicians, at $3,000	6,000.00
2 physicians, at $1,800	3,600.00
1 interne, at $1,200	1,200.00
2 nurses, at $900	1,800.00
1 nurse, at $720	720.00
1 druggist, at $1,500	1,500.00
1 clerk and dispenser, at $900	900.00
2 dispensers of quinine, at $720	1,440.00
1 chaplain, at $1,200	1,200.00
1 chaplain, visiting, at $480	480.00
Gorgona Hospital and Dispensary:	
1 physician, at $3,000	3,000.00
1 physician, at $1,800	1,800.00
1 clerk and dispenser, at $900	900.00
1 nurse, at $900	900.00
1 dispenser of quinine, at $720	720.00
1 chaplain, at $1,200	1,200.00
La Boca Dispensary:	
1 physician, at $2,400	2,400.00
1 physician, at $1,800	1,800.00
1 dispenser of quinine, at $720	720.00
1 clerk and dispenser, at $900	900.00
Panama Dispensary:	
1 physician, at $2,400	2,400.00
1 clerk and dispenser, at $900	900.00
1 dispenser of quinine, at $600	600.00
Corozal Dispensary:	
1 physician, at $1,800	1,800.00
1 clerk and dispenser, at $900	900.00
1 dispenser of quinine, at $720	720.00

Pedro Miguel Dispensary:	
1 physician, at $2,400	$2,400.00
1 physician, at $1,800	1,800.00
1 clerk and dispenser, at $900	900.00
1 dispenser of quinine, at $720	720.00
Paraiso Hospital and Dispensary:	
1 physician, at $1,800	1,800.00
1 interne, at $1,200	1,200.00
1 clerk and dispenser, at $900	900.00
1 nurse, at $900	900.00
1 dispenser of quinine, at $720	720.00
Empire Small Hospital and Dispensary:	
1 physician, at $2,400	2,400.00
1 physician, at $1,200	1,200.00
1 clerk and dispenser, at $720	720.00
1 dispenser of quinine, at $720	720.00
Las Cascadas Small Hospital and Dispensary:	
1 physician, at $2,400	2,400.00
1 physician, at $1,200	1,200.00
1 nurse, at $720	720.00
1 clerk and dispenser, at $900	900.00
1 dispenser of quinine, at $720	720.00
Bas Obispo Hospital and Dispensary:	
1 physician, at $2,400	2,400.00
1 physician, at $1,200	1,200.00
1 clerk and dispenser, at $720	720.00
1 nurse, at $720	720.00
1 dispenser of quinine, at $720	720.00
Bohio Dispensary:	
1 physician, at $1,800	1,800.00
1 interne, at $1,200	1,200.00
Gatun Hospital and Dispensary:	
1 physician, at $3,000	3,000.00
1 physician, at $1,200	1,200.00
1 clerk and dispenser, at $900	900.00
1 nurse, at $900	900.00
1 nurse, at $720	720.00
1 dispenser of quinine, at $720	720.00
Railroad Construction Camp Dispensary:	
1 physician, at $1,800	1,800.00
1 interne, at $1,800	1,800.00
1 dispenser of quinine, at $720	720.00
Cristobal Dispensary:	
1 physician, at $3,000	3,000.00
1 physican, at $1,800	1,800.00
1 interne, at $1,800	1,800.00
1 clerk and dispenser, at $900	900.00
Taboga Sanitarium:	
1 physician (superintendent), at $2,400	2,400.00
1 head nurse, at $1,200	1,200.00
2 nurses, at $900	1,800.00
1 clerk, at $1,500	1,500.00
Asylum for Insane and Chronics:	
1 Matron, at $900	900.00

Asylum for Lepers:		
1 custodian, at $1,200		$1,200.00
To provide for necessary increase in force and adjustment of salaries		29,362.43
Total		652,562.43
4. For skilled and unskilled labor on the Isthmus		9,309,903.40
For department of administration	$379,674.00	
For department of construction and engineering	8,261,906.00	
For Canal Zone government	25,244.40	
For health and sanitation department	643,079.00	
For department of administration		379,674.00
Division of material and supplies—		
Skilled labor, hourly, gold—		
3 carpenters, at 38 cents per hour		2,736.00
4 carpenters, at 32 cents per hour		3,072.00
1 painter, at 32 cents per hour		768.00
Skilled labor, monthly, silver—	Silver.	
2 foremen, at $1,500	$3,000.00	1,500.00
1 foreman teamster, at $1,440	1,440.00	720.00
1 foreman stables, at $1,440	1,440.00	720.00
3 blacksmiths, at $1,080	3,240.00	1,620.00
1 blacksmith, at $960	960.00	480.00
1 saddler, at $1,200	1,200.00	600.00
1 saddler, at $1,080	1,080.00	540.00
Skilled labor, hourly, silver		44,832.00
Unskilled labor, monthly, silver—		
6 coachmen, at $1,440	8,640.00	4,320.00
3 coachmen, at $1,200	3,600.00	1,800.00
1 coachman, at $960	960.00	480.00
21 teamsters, at $1,080	22,680.00	11,340.00
109 teamsters, at $960	104,640.00	52,320.00
10 teamsters, at $840	8,400.00	4,200.00
2 grooms, at $960	1,920.00	960.00
1 farrier, at $960	960.00	480.00
1 stableman, at $960	960.00	480.00
16 cart drivers, at $840	13,440.00	6,720.00
13 cart drivers, at $780	10,140.00	5,070.00
38 cart drivers, at $720	27,360.00	13,680.00
1 stableman, at $840	840.00	420.00
23 stablemen, at $720	16,560.00	8,280.00
3 helpers, at $720	2,160.00	1,080.00
1 boatman, at $720	720.00	360.00
Unskilled labor, hourly, silver		210,096.00
For department of construction and engineering:		
For skilled labor		4,967,058.00
For unskilled labor		3,294,848.00
For Canal Zone government:		
Executive office		6,466.80
Zone government launch		1,140.00
Department of revenues		3,060.00
Bureau of municipalities		600.00

For Canal Zone government—Continued.		
Operation of water system		$11,977.60
Fire department		2,000.00
For health and sanitation department:		
Office of chief sanitary officer		612.00
Property division		7,155.00
Quarantine service, Panama		3,296.00
Quarantine service, Colon		5,066.00
Health office, Panama		72,693.00
Health office, Colon		56,952.60
Zone sanitation		264,099.00
Board of health laboratory		4,272.00
La Boca Dispensary		660.00
Corozal Dispensary		720.00
Miraflores Dam Camp		660.00
Pedro Miguel Dispensary		1,080.00
Paraiso Hospital and Dispensary		2,250.00
Culebra Hospital and Dispensary		3,660.00
Empire Small Hospital and Dispensary		1,590.00
Las Cascadas Hospital and Dispensary		2,430.00
Bas Obispo Hospital and Dispensary		2,550.00
Gorgona Hospital and Dispensary		2,190.00
Bohio Dispensary		1,260.00
Gatun Hospital and Dispensary		2,790.00
Railroad Construction Camp Dispensary		1,020.00
Cristobal Dispensary		1,260.00
Taboga Sanitarium		6,591.50
Asylum for Insane and Chronics		9,523.00
Asylum for Lepers		1,920.00
Ancon Hospital		90,307.90
Colon Hospital		63,315.50
Empire Hospital		33,155.50
5. For purchase and delivery of material, supplies, equipment, buildings, and contingent and miscellaneous expenses		10,259,854.90
For department of administration	$204,637.90	
For department of construction and engineering	8,923,000.00	
For Canal Zone government	339,406.50	
For health and sanitation department	792,810.50	
Department of administration—		
Division of audits—		
Furniture		1,000.00
Stationery and printing		1,000.00
Incidentals		1,000.00
Premium on bonds of employees		2,500.00
Division of material and supplies—		
Office equipment, furniture, etc		4,990.00
Stationery and printing		14,400.00
Animals, additional—		
150 mules		27,975.00
20 horses		3,000.00
Forage for 700 animals—		
Grain, 2,300,000 pounds		35,880.00
Hay, 3,700,000 pounds (including bedding)		44,030.00
Rock salt, 3 tons		56.40

5. For purchase and delivery of material, etc.—Continued.
Department of administration—Continued.
Division material and supplies—Continued.

Vehicles—	
2 carriages for officials, to replace old ones about worn out	$1,300.00
4 brakes	1,000.00
20 escort wagons	1,660.00
40 lumber wagons	3,600.00
20 carts	700.00
2 regulation New York rack trucks	660.00
Harness—	
100 sets double-wheel harness	2,700.00
40 sets cart harness	560.00
6 sets single carriage harness	240.00
6 sets double carriage harness	480.00
20 extra saddles, complete	400.00
4,000 pounds leather	1,600.00
300 halters (leather, with shanks)	420.00
200 collars, extra	380.00
20 sets double ambulance harness	600.00
50 riding bridles	100.00
2,000 square feet imitation leather	400.00
50 whips	50.00
Miscellaneous harness snaps and buckles	100.00
Harness sundries, material for care of harness, oil, etc.	300.00
Stable tools—	
200 currycombs	150.00
300 brushes	300.00
200 three-gallon pails (galvanized)	65.00
200 stable brooms, complete	60.00
20 scoop shovels	12.00
50 dirt shovels	12.50
50 four-pronged manure forks	25.00
50 hay forks	25.00
1 dozen poleaxes	9.00
12 pairs of hand clippers	20.00
Repair parts to clipping machine	200.00
Blacksmith shop—	
2 No. 1 Champion portable forges	75.00
25,000 pounds horseshoes	1,750.00
2,000 pounds horseshoe nails	250.00
30 tons coal (3 cars)	210.00
Iron, steel, miscellaneous material, and tools	1,000.00
Carpenter shops—	
Material, miscellaneous supplies, and tools (including hard wood for repairs)	3,500.00
Carriage and wagon repair parts	2,500.00
Paint shop—	
Material, supplies, and tools	2,000.00
Miscellaneous supplies—	
800 gallons kerosene oil	118.00
3 barrels lubricating oil (150 gallons)	33.00
5 tons axle grease (8,000 pounds)	320.00
Veterinary, for use of	700.00

5. For purchase and delivery of material, etc.—Continued.	
Department of administration—Continued.	
Division of material and supplies—Continued.	
Moving old corrals from Ancon section and building new corrals; building additional stable room at different corrals (estimated cost)	$20,000.00
Printing plant—	
2,600 gallons gasoline	702.00
60 pounds printers' ink	120.00
Extra type, chases, etc	200.00
Miscellaneous material for the storehouses along the line, such as oil, soap, tools, etc	1,000.00
Transportation of gold men to the Isthmus, on basis of 60 men per year	800.00
Transportation of laborers to the Isthmus, on estimate of 500 men per year	6,000.00
Transportation on the Isthmus, estimated one-tenth of total transportation of commission employees	3,900.00
Division of disbursements—	
Stationery and printing	2,000.00
Incidental expenses	2,000.00
Furniture	1,000.00
Legal department—	
Stationery and supplies	300.00
Incidental and traveling expenses	200.00
Department of construction and engineering—	
Instruments	8,000.00
Floating equipment, other than coal	40,000.00
Repairing floating equipment	130,000.00
Tools for marine shops	6,000.00
Supplies for marine shops	6,000.00
Subsistence, field parties	15,000.00
Tools and supplies—	
Excavating department	60,000.00
Mining department	40,000.00
Explosives	500,000.00
Track department	10,000.00
Transportation department	15,000.00
Steel rails and fastenings	280,000.00
Frogs and switches	20,000.00
Cross-ties	130,000.00
Miscellaneous, Culebra division	8,000.00
Lumber, all classes	600,000.00
Piling	40,000.00
Hardware	25,000.00
Roofing	40,000.00
Screening	40,000.00
Masonry	700,000.00
Painting	90,000.00
Plumbing	50,000.00
Miscellaneous, building	40,000.00
Furniture—	
Renewals	3,000.00
Quarters	125,000.00
General	2,000.00

5. For purchase and delivery of material, etc.—Continued.	
Department of construction and engineering—Continued.	
Furniture—Continued.	
Hotel supplies	$120,000.00
Laborers' messes	200,000.00
Laborers' cots	50,000.00
New floating equipment—	
4 suction pipe-line dredges	800,000.00
Dump barges	120,000.00
New rolling equipment—	
Locomotives	400,000.00
Cars	1,000,000.00
Miscellaneous	100,000.00
Excavating machinery—	
Steam shovels	240,000.00
Drills	80,000.00
Pipe lines	30,000.00
Other machinery and appliances—	
Miscellaneous machinery	40,000.00
Repairs—	
Material and supplies needed for maintenance of rolling stock, dock machinery, derricks, cranes, compressors, pipe lines, foundries, shops, small tools, etc., and for manufacturing, all divisions	600,000.00
New shops, Pedro Miguel—	
Shop extensions and tools	150,000.00
Fuel—	
For all plants	1,375,000.00
Furnishing labor—	
Cost of recruiting and transportation	312,000.00
Gold men	36,000.00
Local transportation—	
Panama Railroad, monthly payment	78,000.00
Traveling expenses of examiners, inspectors, and special agents or officers, including salaries and services	44,000.00
Extra train service	15,000.00
Repatriation	60,000.00
Miscellaneous expenses	4,000.00
Telegraph and cable	5,000.00
Travel on the Isthmus	15,000.00
Incidentals	6,000.00
Stationery and printing	20,000.00
Canal Zone government—	
Executive office—	
Supplies, material, and printing	2,000.00
Books and newspapers	500.00
Furniture and office equipment	2,000.00
Supplies (administration building, oil, etc.)	600.00
Furniture and equipment for governor's house	6,000.00
Ice for administration building	750.00
Supplies for launch	1,500.00
Transportation of remains of deceased employees	2,000.00
Transportation in deportation cases	2,000.00

5. For purchase and delivery of materials, etc.—Continued.	
Canal Zone government—Continued.	
Executive office—Continued.	
Transmission of cablegrams	$5,000.00
Electric current for lighting and electric fans for administration building	1,000.00
Construction of new administration building at Ancon	100,000.00
Construction of new administration building at Cristobal	50,000.00
Water commissioner—	
Tools and extra parts for repairs	2,000.00
Electric current and lighting and power	2,550.00
Stationery and office supplies	1,600.00
Traveling expenses	500.00
Miscellaneous supplies	2,166.50
Fuel	57,890.00
Incidentals	4,450.00
Fire department—	
Purchase of 2 horses, at $300 each	600.00
New apparatus	4,000.00
Construction of two engine houses for volunteer fire departments	2,000.00
Equipment for volunteer departments	500.00
Repairs to apparatus	1,000.00
Miscellaneous supplies for apparatus	500.00
Office furniture	1,000.00
Stationery and office supplies	200.00
Forage for horses of fire department	2,000.00
Traveling expenses and incidentals	500.00
Judiciary—	
Stationery, printing, etc	1,000.00
Law books	1,000.00
Traveling expenses and incidentals	1,000.00
Police department—	
Equipment:	
25 horses, at $80 each	2,000.00
40 sets equipment for horses, at $15 each	600.00
Revolver and carbine ammnuition	200.00
Forage	5,000.00
Maintenance of prisoners	4,500.00
Clothing for prisoners	1,200.00
Repairs and additions to buildings	7,000.00
Office and barracks supplies, including printing, advertising, stationery, and all expendible supplies	3,500.00
Traveling expenses and incidentals	7,000.00
Department of revenues—	
Stationery and office supplies	3,500.00
Post-office stationery and office supplies to be purchased in Washington from Government contractors	6,500.00
Office furniture	3,000.00
Buildings—	
Construction of post-office buildings (3 estimated)	10,000.00
Transportation of mails	18,000.00
Incidentals and traveling expenses	3,000.00

5. For purchase and delivery of material, etc.—Continued.	
Canal Zone government—Continued.	
Bureau of municipalities—	
Stationery and office supplies	$1,000.00
Traveling expenses and incidentals	600.00
Executive office—	
Traveling expenses and miscellaneous	1,000.00
Commutation of quarters	2,000.00
Health and sanitation department:	
Hospital division—	
Subsistence of personnel and patients—	
White personnel, 194, at 40 cents per day	28,401.60
Colored personnel, 600, at 25 cents per day	54,900.00
Lepers, 25, at $10 per month	3,000.00
White patients, 225 daily, at 40 cents each per day	32,940.00
Colored patients, 1,200 daily, at 25 cents each per day	109,800.00
Medical supplies and surgical dressings—	
1,200 patients daily, at 10 cents each per day	43,920.00
Drugs and dressings for clientele of 35,000 persons, at 5 cents each per month	21,000.00
Adding second story to ten wards, Ancon Hospital	100,000.00
Repairs to buildings already constructed	26,000.00
Equipment of leper settlement, Palo Seco	3,000.00
Renewal of present equipment (12½ per cent of first cost)	22,000.00
Renewal of bedding, towels, table linen, etc., 1,785 beds, at $5 per bed	8,925.00
Fuel, 107 tons per month, at $6.60 per ton	8,474.40
Lumber and building supplies for miscellaneous work	4,000.00
Electric lighting for hospitals	4,200.00
Laundry supplies	17,500.00
Transportation for hospitals, purchase and hire of animals, vehicles, etc	30,000.00
Subsistence and shoeing of horses at line hospitals	1,344.00
Carriage for director of hospitals	780.00
Stationery, office furniture, and incidentals	10,000.00
Annual hire and cost of renting hospital cars	3,650.00
Launch for Taboga and Palo Seco (Leper Hospital)	900.00
Garden and vegetable seeds and tools	1,350.00
Ancon Hospital dairy, feed, etc	2,500.00
Office of sanitary officer—	
Stationery and office supplies	1,500.00
Traveling expenses and incidentals	500.00
Rent for offices for sanitary department	3,900.00
Emergency sanitary work	50,000.00
Printing and binding to be done at Washington	2,400.00
Property division, office of chief sanitary officer—	
Office furniture	250.00
Stationery and office supplies	600.00
Rent for storehouse, Panama	1,800.00
Furniture for storehouse at Colon	1,200.00
Quarantine service, Panama and Colon—	
Subsistence of personnel, including laborers and persons detained in quarantine	13,522.00
Fuel	801.00
Household furniture	1,578.00

5. For purchase and delivery of material, etc.—Continued.	
Health and sanitation department—Continued.	
Quarantine service, Panama and Colon—Continued.	
Office furniture	$80.00
Stationery and office supplies	685.00
Disinfecting supplies	3,479.00
Supplies for boats, including equipment	694.00
Miscellaneous supplies	1,675.00
Laundry	600.00
Construction of proposed new permanent station, Panama	30,000.00
Equipment of new station, Panama	4,593.00
Miscellaneous, including traveling expenses and incidentals	7,420.00
Office of chief sanitary inspector, division of zone sanitation—	
Supplies for fumigation, cutting grass and weeds, drainage, etc., including coffins for burial	49,004.50
Stationery and office supplies	1,500.00
Traveling expenses and incidentals	5,000.00
Health office, Panama—	
Supplies for fumigation, disinfecting, cutting grass and weeds, drainage, etc	15,001.00
Traveling expenses and incidentals	500.00
Rent for storehouse	540.00
Cart hire for fumigation, street cleaning, garbage collection, house and yard cleaning, well filling, etc	30,000.00
Health office, Colon—	
Supplies for fumigation, disinfecting, cutting grass and weeds, drainage, etc	17,953.00
Construction of storehouse at Gatun	1,500.00
Traveling expenses and incidentals	500.00
Board of health laboratory—	
Books and periodicals	300.00
Chemicals and apparatus	600.00
Office furniture	200.00
Changes in laboratory building	750.00
Expenses of collecting samples of water, food, etc	360.00
Construction of experimental apparatus	240.00
Commutation of quarters estimated	3,000.00
Total	10,259,854.90
To be used as an advance to the Panama Railroad Company to continue the reequipment of the railroad of said company	1,385,000.00
Estimated cost of improvements and additions to the Panama Railroad Company:	
Rails and fastenings	135,000.00
Cross ties	70,000.00
New yards	120,000.00
Buildings	70,000.00
Docks	350,000.00
Freight and work equipment	400,000.00
Passenger equipment	70,000.00
Locomotives	120,000.00
Miscellaneous	50,000.00
Total	1,385,000.00

4. Pursuant to the resolution adopted at the adjourned meeting of the Commission the General Counsel made a statement respecting arrangements between the Republic of Panama and the Government of the United States relative to waterworks, sewerage, street paving, hospital expenditures, and other matters referred to him. On motion, it was duly

Resolved, That the General Counsel be requested to take up with the Panamanian authorities the consideration of the obligations of the Government of Panama to the Government of the United States, growing out of expenditures for public improvements and utilities made by the United States in Panamanian territory.

Resolved, further, That he take up with the said authorities the question of enlargement of the Zone boundaries in the vicinity of La Boca.

5. The Chairman reported that in accordance with the authority vested in him by an Executive Order of the President of the United States, dated November 17, 1906, the following heads of departments had been appointed by him, under date of November 19, 1906, and, upon motion, the same were approved, ratified, and confirmed:

John F. Stevens, Chief Engineer, Head of the Department of Construction and Engineering.

Richard Reid Rogers, General Counsel, Head of the Department of Law and Government.

Col. W. C. Gorgas, U. S. A., Chief Sanitary Officer, Head of the Department of Sanitation.

David W. Ross, General Purchasing Officer, Head of the Purchasing Department, with compensation at the rate of $12,000 per annum.

Ernest S. Benson, General Auditor, Head of the Auditing Department, with compensation at the rate of $10,000 per annum.

Edward J. Williams, Disbursing Officer, Head of the Disbursing Department on the Isthmus of Panama, with compensation at the rate of $7,850 per annum.

Jackson Smith, Manager of Labor and Quarters, Head of the Department of Labor, Quarters, and Subsistence.

6. The Chairman presented for consideration the question of size of locks, and, after discussion, it was

Resolved, That all locks shall be constructed of the dimensions of 1,000 feet, usable length, by 100 feet wide, with 40 feet in salt water and 41⅓ feet in fresh water over miter sills.

Commissioner Hains dissented, for reasons set forth in the following memorandum submitted by him and ordered spread upon the minutes:

The minority of the Board of Consulting Engineers recommended locks with a usable length of 900 feet and a usable width of 95 feet. The resolution before the Commission proposes to make the locks 1,000 feet in usable length and 100 feet usable width.

From the discussion at the last meeting of the Commission it is evident that the majority of its members are in favor of locks of the larger size. As I do not concur

in this opinion I must vote against the resolution now before the Commission. In justification of my vote I desire to offer the following reasons:

1. The tendency in modern shipbuilding is to increase the width or beam of ships more proportionally than their length. This is illustrated conspicuously in the two latest types of large ship construction, viz, in the *Lusitania* and the *Mauritania*. The length of these two ships over all is about 800 feet, beam 88 feet, loaded draft about 37 feet, and tonnage about 33,000. The average length of the 10 largest ships in the world, including the two above named, is 714 feet. Their average beam is 74 feet; average draft about 32 feet, and average tonnage about 21,000 tons. The ratio of the beam to length in the two largest is as 1 is to 9, in the 10 largest as 1 is to 9.6. A vessel built in accordance with the average ratio of the 10 would, if she were 1,000 feet long, have a beam of 104 feet. If built in accordance with the ratio of the latest two, viz, the *Mauritania* and *Lusitania*, she would have a beam of 110 feet. A lock therefore, with a usable length of 1,000 feet and a usable width of 100 feet would not be wide enough for either.

It will be noted that the ratio of width to length in the two largest and latest designs has been materially increased over the average of the 10 latest. I believe that the tendency will be, in the future, to increase the beam of large ships more proportionally than their length. If this be true, locks with a ratio of 1 to 10, which is proposed in the resolution, will not meet the new conditions. Indeed, the ratio adopted by the minority of the Consulting Board of Engineers may be too small, but it is nearer the average than the other.

2. The great draft of such vessels as the *Lusitania* and *Mauritania* will restrict their voyages to ports that they can enter. There are few ports in the world to-day that will admit them loaded. Being built for passenger traffic, principally, they will ply between the deep and important harbors of Europe and America. They must load and discharge at ports where the most modern terminal facilities exist. They can not afford, on account of their cost, to lie idle at the docks or to expend an unusual length of time in loading or discharging. Such vessels are not likely, in my opinion, to use the canal. It is not even probable that these large ships will be used as transports in war on account of the paucity of harbors that they can enter. There is not a harbor on the coast of the United States south of New York that they can enter loaded, and they can not even enter New York harbor until it is deepened. That the draft of water in our harbors may be increased is admitted, but it will be many years before this can be accomplished to any great extent, and in the case of many harbors it will be impracticable to deepen them sufficiently to accommodate these great ships.

3. To a certain extent the two large vessels referred to are experimental. They are not yet to be classed as successful commercial ventures. They may or may not prove so, even for the trade for which they are designed, and the inference that much larger ones will soon follow them is by no means assured. The size of the locks recommended by the minority of the Board of Consulting Engineers is, however, sufficient not only to accommodate them, but to accommodate others of 25 per cent larger tonnage should they ever come into use.

4. Docks into which they may be taken for repair and examination are necessary for all ships. There are only a few in the world that are large enough to take in these leviathans. This, together with the great cost of construction and operation of these docks, will always limit their number and retard their growth, and thus react to retard the growth of ships.

5. The locks are to be in duplicate, but there is no necessity of having them exactly the same size. If one set be built first, the building of the second set can be postponed until after the opening of the canal. The second set can then be made larger than the first set, should the developments of the next few years demonstrate the necessity therefor. No one can tell what may be the size of the great ships of the future, but ten years hence there is a prospect that there will be less uncertainty than there is

to-day. Moreover, the construction of the second set can be done at less cost than if both sets be built together, and as the construction of the locks is the controlling factor in fixing the time of opening the canal, the building of a single set at first will enable the canal to be opened sooner than if both sets be built at the same time.

6. The technical problems involved in the construction of these large locks are by no means unimportant. Every additional foot in width necessitates the enlargement of the gates, which are already beyond precedent. I do not wish to convey the idea that gates can not be built of the proposed dimensions that will work satisfactorily, but it is far safer to make progress in this direction by steps rather than by a long leap. No amount of theory can replace experience. Ships have grown large gradually. The sudden leap taken in the construction of the *Great Eastern* fifty years ago was a dismal failure. More important than the construction of the gates is their operation. The larger they are the more difficult it will be to operate them and keep them in repair.

7. The traffic thru the Panama Canal will, for some years after it is first opened, be small. This is the universal experience with all canals. At first but little commerce passes thru them. The increase comes gradually. It was so with the Amsterdam, the Kiel, the Soo, and the Manchester canals. It is only reasonable to believe that the Panama Canal will follow the beaten track. A single set of locks will answer all purposes for years, and the construction of the second set can thus be postponed without detriment to commerce.

8. The construction of locks of the size stated in the resolution will cost about $7,000,000 more than those recommended by the minority of the Consulting Board. I do not think we are justified in incurring this large additional expenditure to meet an emergency that may never arise.

9. The *Mauritania* and *Lusitania* are British ships, heavily subsidized by the British Government. Indeed, all of the large ships of the world are foreign ships, granted subsidies by the governments under whose flag they sail. Without these subsidies it is doubtful whether or not they could keep the seas. The American policy for years has been opposed to the granting of subsidies. Unless that policy be changed we are not likely to add such large ships, much less larger ones, to our commercial marine.

7. *Resolved*, That the recommendations, as contained in the letter of the Chief Engineer of date August 3, 1906, as to the location of the Gatun locks, and as to the line of the canal from these locks northward to deep water in the Caribbean Sea, with the modification that the outer end of the most northerly tangent be moved westward substantially as shown in yellow on the blueprint accompanying the letter, are hereby approved, and the construction of the Gatun locks at the location, and on the line as shown on said print, is hereby ordered. The letter of August 3, 1906, referred to, is as follows:

ISTHMIAN CANAL COMMISSION,
DEPARTMENT OF CONSTRUCTION AND ENGINEERING,
Culebra, August 3, 1906.

Mr. T. P. SHONTS,
Chairman, Culebra, C. Z.

SIR: I beg to hand you a blueprint which I have prepared, showing the north or Caribbean terminus of the canal, from and including the Gatun locks to the sea.

The approach to the Gatun locks from the 42-foot line in Colon Harbor to the locks, to be a dredged channel 500 feet bottom width, 41 feet deep at mean tide, and in alignment as indicated on the print.

The print also shows in dotted lines the alignment as proposed in the minority report of the Board of Consulting Engineers, as nearly as it can be laid down from the general map prepared by the Board.

I have located the locks as indicated, after careful consideration, so that in the construction of the same and the approaches we obtain the least practicable amount of work, combined with the best foundations and alignment. You will observe that we get some 6,000 feet of straight line approaching the locks. In other words, the center axis of the locks coincides with the center line of the canal for a distance of nearly 1¼ miles north from the locks and avoids the angle so close to the end of the locks as proposed by the Board.

The alignment I propose to adopt gives a total of about thirteen degrees from the locks to the sea, while the alignment of the Board shows a total of fifty-four degrees, a saving in favor of the new line of forty-one degrees. The new line is also some 600 feet shorter. The above advantages are too obvious to need discussion.

Now, as regards the estimate of quantities and classification of same and consequent cost, my estimate of quantities on the proposed line exprest in the same form as submitted by the Board is as follows:

	Yards.
Excavation of channel in Limon Bay from mile 0 to mile 4.55	8,455,909
Excavation from head of Limon Bay (mile 4.55) to northerly end of Gatun Lot (mile 6.7):	
Earth	7,620,652
Indurated clay	3,309,671
Total	19,386,232

Please note in a comparison of quantities that my estimate is about 150,000 yards more than that of the Board, from the 42-foot line to the shore line of Limon Bay by following exactly the same alignment.

This difference may arise from the fact that I have estimated for a depth of 41 feet, while the Board reports that a channel 40 feet deep should be dug, which is probably the depth it estimated, although on Plate 10 the depth is indicated as 41 feet. But my total of quantities is still about 1,000,000 yards less than the total as estimated by the Board, this decrease arising largely, no doubt, from the shorter length of the line as proposed. However, I have always felt that the classification as fixt by the Board is too low, there being, to my mind, more indurated clay than it allows. I have therefore, in my classification, allowed about 1,000,000 yards of indurated clay more than allowed by the Board, so that, as a total in cost, my figures run $320,000 (with the same unit prices) over the estimate as made by the Board; while on the Board's classification, with my quantities, my estimate would run some $370,000 less.

The placing of the locks somewhat farther to the north than indicated by the Board gives a much better foundation for the south approach walls and safety gates, as will be apparent from a study of the topographical map of the situation.

I am therefore preparing to go ahead with the work, as to the location of the locks and lines from the locks to the sea, on the plan submitted with this letter.

Truly yours,

JNO. F. STEVENS,
Chief Engineer.

8. Commissioner Hains offered the following resolutions, which, after discussion, were adopted:

Resolved, That the Chief Engineer be requested to sink six test pits, not less than 6 feet in diameter, two about midway of the side walls of each lock (at Gatun). These pits to be kept free from rain

water falling direct or flowing over the sides, and to be sunk to the bottom of the side walls; the object of such pits being to enable the Commission to make a personal examination of the material composing Gatun Hill.

Resolved, further, That the Chief Engineer be requested to secure samples of the various strata passed through in sinking the above pits, to have them classified and designated by proper names, and analyzed by a chemist experienced in such work. Also, that samples in blocks be taken from near the bottoms of the various pits, and subjected to such tests as may be necessary to determine the density of the material, whether or not it is compressible, and the safe load it will carry.

9. The Chairman presented the following letter from the Chief Engineer, dated October 8, 1906, relative to a suggested change of line at the south entrance of the canal, as shown on blueprint accompanying said letter:

ISTHMIAN CANAL COMMISSION,
DEPARTMENT OF CONSTRUCTION AND ENGINEERING,
Culebra, October 8, 1906.

Mr. T. P. SHONTS,
Chairman, Isthmian Canal Commission, Washington.

SIR: I beg to inclose blueprint, plan and profile, showing a suggested change of line by Major Harrod at the south entrance of the canal, indicating the proposed sea-level channel from deep water up to the locks, as originating on the west instead of on the east side of the islands lying at the mouth of the harbor.

The borings are numbered along the line as indicated, and are clearly shown on the profile, from which you will note that after this new proposed line crosses the old French channel, or the line which has been adopted, it does not encounter any rock from that point out to deep water in the harbor.

The idea which gave rise to this suggestion was that we would be enabled to largely decrease the angle in the channel just outside of the approach to the locks, and in that way be enabled to lengthen the approach, all of which, it is clearly shown, can be accomplished.

In fact, the approach to the locks can be made almost any length desired, up to 2,500 feet; and an estimate made for a channel along the French location is as follows:

7,700,000 cubic yards earth, at 15 cents	$1,155,000
300,000 cubic yards rock, at $1.50	450,000
460,000 cubic yards rock, at $2.50	1,150,000
	2,755,000

This being, of course, for a channel 500 feet wide and 45 feet deep along the proposed line.

The estimate for a channel of the same dimensions along the proposed line west of Naos Island is:

10,710,000 cubic yards earth, at 15 cents	$1,606,500
300,000 cubic yards rock, at $1.50	450,000
460,000 cubic yards rock, at $2.50	1,150,000
	3,206,500

being a difference between the locations of $451,500.

The estimated amount of rock is the same on both lines; that is, the borings taken on both these lines show about the same amount of rock; or, in other words, adopt-

ing the new proposed entrance will cost about $450,000, on the face of the figures, more than the one already decided upon along the old French channel.

There is this, in addition, in favor of the new proposition, and that is that the harbor currents would be much more nearly parallel with the line of the channel than they would be with the adopted location along the old French line, and it would be natural to suppose, in view of this, that there would be much less silting in or filling in of the channel.

I submit the above for your consideration.

Truly yours,

JNO. F. STEVENS,
Chief Engineer.

After discussion it was unanimously

Resolved, That the change of line suggested in this letter be approved and ordered.

There being no further business to come before the meeting an adjournment was had, subject to the call of the Chairman.

ONE HUNDRED AND SEVENTEENTH MEETING.

COLON, *November 26, 1906.*

Present: Commissioners Shonts (chairman), Stevens, Endicott, Hains, and Harrod.

By invitation General Counsel Rogers and Principal Assistant Engineer Ripley sat with the Commission.

The reading of minutes of previous meetings was deferred.

1. *Resolved*, That all employees of the Isthmian Canal Commission, located in Commission buildings, shall be furnished water, light, and fuel free of charge, the character and amount to be determined by the Head of the Department of Labor, Quarters, and Subsistence.

2. The Chairman presented the following letter from the Chief Engineer, dated November 12, 1906, suggesting certain improvements at Mount Hope Cemetery, and, after discussion, the suggestions contained therein were approved and ordered:

ISTHMIAN CANAL COMMISSION,
DEPARTMENT OF CONSTRUCTION AND ENGINEERING,
Culebra, November 12, 1906.

MR. H. D. REED, *Executive Secretary, Ancon.*

SIR: I beg to refer you to letter of Governor Magoon dated April 19, in which he requested that a survey be made and a map prepared of Mount Hope Cemetery and adjacent lands.

Also that a plan for the improvement and extension of the cemetery be prepared, including a system of roads and walks, and the division of the cemetery into numbered blocks, etc.

The preparation of the map requested has been long delayed, owing to several causes. It was utterly impossible to furnish labor to go ahead with the improvements, which are estimated as follows:

14.9 acres of land, at $25 per acre	$372.50
3,600 square yards of macadam in place	8,400.00
2,250 square yards of path in place	1,500.00
8,000 cubic yards of grading	4,000.00
Drainage	355.00
Engineering and superintendence	1,462.75
Total	16,090.25

In compliance, however, with the Governor's request, I beg to attach map which has been prepared, showing the proposed improvements, and will say, furthermore, that our engineers have been instructed to go ahead and stake out the cemetery in accordance with attached blueprint, but we can do no other work than staking out until the dry season, when we hope to be able, if the proposition is duly approved by the Commission, to go ahead and make the improvements as rapidly as possible.

I would suggest, therefore, if it is considered proper that the improvements be made as shown, at the coming meeting of the Commission that the matter will be properly authorized.

Truly yours, JNO. F. STEVENS, *Chief Engineer.*

[First indorsement.]

GOVERNMENT OF THE CANAL ZONE,
EXECUTIVE OFFICE,
Ancon, November 13, 1906.

Respectfully referred, with blueprint attached, to the Chief Sanitary Officer for his comment and return.

H. D. REED, *Executive Secretary.*

[Second indorsement.]

OFFICE OF CHIEF SANITARY OFFICER,
Ancon, C. Z., November 22, 1906.

Respectfully forwarded to the Chairman, Isthmian Canal Commission, Ancon, C. Z., recommending that this work be done.

W. C. GORGAS,
Chief Sanitary Officer.

There being no further business to come before the meeting an adjournment was had, subject to the call of the Chairman.

ONE HUNDRED AND EIGHTEENTH MEETING.

WASHINGTON, *December 24, 1906.*

Present: Commissioners Shonts (Chairman), Stevens, Endicott, and Hains.

1. The Chairman presented for consideration a letter from the Chief Engineer, dated at Culebra, Canal Zone, November 30, 1906, calling attention to the resolution adopted at the sixty-fourth meeting of the Isthmian Canal Commission, held December 22, 1904, providing an arrangement between the Isthmian Canal Commission and the Panama Railroad Company in regard to the maintenance and repair of a joint telephone and telegraph line for the use of the two interests, and further calling attention to the fact that there will be constructed and

maintained, for the exclusive use of the Commission, lines from Pedro Miguel to Bas Obispo, along practically the prism of the Canal, and from Bas Obispo to Alhajuela, which were not considered or covered by the resolution. Upon motion of the Chairman, it was

Resolved, That telephone and telegraph lines constructed and maintained as independent lines for the exclusive use of one interest shall be paid for exclusively by the interest concerned, and that the property shall become the exclusive property of, and shall be operated and maintained exclusively by such interest.

2. The Chairman presented a communication from the Chief Sanitary Officer, dated December 1, 1906, recommending that Miss M. Eugenie Hibbard, who has been the chief nurse at Ancon Hospital since June 7, 1904, be permitted to receive pay in the United States, without the necessity of returning to the Isthmus, for a leave of absence which she had been granted.

In accordance with the provisions of paragraph 11 of the minutes of the one hundred and thirteenth meeting, such authority was granted.

3. The Chairman presented a communication from the Chief Engineer, dated December 7, 1906, recommending that Mr. H. P. Linnell be paid in the United States for forty-eight days' leave of absence, effective September 19, 1906, without the necessity of returning to the Isthmus, his resignation taking effect at the expiration of such leave.

In accordance with the provisions of paragraph 11 of the minutes of the one hundred and thirteenth meeting, such authority was granted.

4. The Chairman brought up the proposal which had developed during the visit of the President to the Isthmus, that the American employees in skilled trade occupations, and paid on an hourly basis, receive compensation for certain holidays, in accordance with the practice prevailing in the Government service in the United States with respect to employees similarly employed. After discussion of this matter the following resolution was adopted, the same to be made a part of the contract of employment and to supersede all orders in conflict therewith:

Resolved, That all employees whose compensation is fixed on an hourly basis, and who receive a wage of 56 cents United States currency per hour, or more, and who are carried on the rolls prior and subsequent thereto, will be allowed pay for the following holidays: January 1, February 22, May 30, July 4, Labor Day, Thanksgiving Day, and December 25. Employees with rate of pay per hour will be paid on the basis of an eight-hour day. If such employees render actual service on these holidays they will be allowed time and one-half in addition to pay for such holidays.

There being no further business to come before the meeting, an adjournment was had, subject to the call of the Chairman.

MINUTES OF MEETINGS OF THE ENGINEERING COMMITTEE.

FORTY-FIRST MEETING.

WASHINGTON, D. C., *October 1, 1906.*

The meeting was called to order at 10.30 a. m. by the Chairman, Commissioner Endicott:

Present: Commissioners Endicott and Hains.

The minutes of the 40th meeting were read and approved.

1. The Committee took under consideration the proposed new location of the Gatun locks and approach channel as advocated by the Chief Engineer, and in connection therewith was read a letter from the Chief Engineer to Mr. Ripley under date of September 8, copies of which had been furnished each member, stating that he was proceeding with further borings, but believed the location selected the most desirable.

Action on this matter was withheld pending further studies as to location and foundation of locks.

2. There was laid before the Committee copy of the Chief Engineer's letter of September 7, together with blueprint showing the bottom width and alignment and proposed widening at angles of the canal between Bas Obispo and Pedro Miguel; also copy of the Chief Engineer's letter of September 14, giving estimates and classification of quantities on 500 and 400 foot bottom width of canal between Matachin and Bas Obispo, and stating that he favored a width of 400 feet.

With a view to considering this matter at the next meeting of the Commission, action was deferred.

3. A communication from Robert Shapland, of London, England, to the President, was read, concerning his invention for raising and lowering vessels on canals, together with plans of same.

It was the sense of the Committee that the writer should be informed that the committee can see no reason for changing its action taken at the twelfth meeting, and of which he was duly apprised.

4. There was laid before the Committee a communication from Dr. Jan Dezort, of Muglitz, Austria-Hungary, transmitting plans and specifications of Ferdinand Pokorney's system of canal locks.

This matter was held in abeyance for further consideration.

5. A communication from A. S. Prather, of Taneyville, Mo., was read, outlining a method of removing excavated material by means of a boat car.

On motion it was directed that the writer be informed that his method is not applicable to the work at Panama.

6. A communication from Michael Spelman, of Shreveport, La., was read, urging the building of double locks in place of single.

On motion it was directed that the writer be informed that it is contemplated to build double locks.

At 11.15 a. m. the committee adjourned.

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